Answers

1 (a) The principal budget factor is the factor that limits an organisation's performance for a given period and is usually the starting point in budget preparation.

In a state owned hospital, which provides free treatment to patients, it is likely to be some measure of capacity. For example this could be accommodation available, clinical staff time, or ultimately cash available.

(b) Income and Expenditure Account

Income and Expenditure Budget
Specialised Surgery Department
Year ending 31.12.2006

		Hips	Knees	Total
		£	£	£
		5,000	3,500	
Drugs		(480)	(385)	
Nursing	W1	(720)	(450)	
Accommodation	W2	(900)	(750)	
Contribution per treatment		2,900	1,915	
Budgeted activity (number of treatments)		200	300	
Total contribution	W3	580,000	574,500	1,154,500
Fixed Costs				
Doctors Salaries				(180,000)
General overhead				(900,000)
Surplus				74,500

Workings
1. 18 days x 2 hours x £20 = £720
   15 days x 1.5 hours x £20 = £450
2. 18 days x £50 = £900
   15 days x £50 = £750
3. £2,900 x 200 = £580,000
   £1,915 x 300 = £574,500

(c) Flexed Budget

Income and Expenditure Budget
Specialised Surgery Department
Year ending 31.12.2006

	Hips	Knees	Total
	£	£	£
Contribution per treatment	2,900	1,915	
Budgeted activity (number of treatments)	180	270	
Total contribution	522,000	517,050	1,039,050
Fixed Costs			
Doctors Salaries			(180,000)
General overhead			(900,000)
Deficit			(40,950)

(d) The advantages of using a computer spreadsheet package.

A spreadsheet is a general-purpose software package, the term being loosely derived from a 'spreadsheet of paper' divided into rows and columns. The user of the package can decide what data or information should be presented in the spreadsheet and how it should be manipulated. The advantages of using a spreadsheet package in constructing and revising budgets are as follows:

- Spreadsheets can process large amounts of data quickly. Budgeting often involves a large amount of numerical manipulation.
- Computations are performed accurately, assuming the spreadsheet is programmed correctly and the data is input correctly.
- If key variables are contained in an input section alterations and amendments can be easily processed.
- Spreadsheets are simple to use and cheap to acquire and bring computer modelling within the reach of every day users.

– Spreadsheets, if well constructed, facilitate 'what if?' analysis, that is they allow the user to test the effect of changes in input data on budgeted results. For example the effect of a change in debtor payment days on the cash position and the balance sheet could be quickly computed by a spreadsheet.
– They aid good presentation of results and offer facilities for the production of graphs and tables.
– Once set up the same model can be used each year.

(e) Balanced Scorecard

(i) Explanation.
A balanced scorecard approach to performance measurement seeks to measure performance under the headings of financial success, customer satisfaction, process efficiency and organisational learning and growth.

(ii) Advantages.
– It measures performance in a variety of ways, rather than relying on just one aspect of performance.
– Managers are unlikely to be able to distort the performance measure.
– Bad performance is difficult to hide if multiple performance measures are used.
– It provides both leading and lagging indicators of business performance.
– Success in the four key areas should lead to the long term success of the organisation.
– It is flexible, what is measured can be changed over time to reflect changing priorities and strategies.
– 'what gets measured gets done', that is if managers know they are being appraised on various aspects of performance they will pay attention to these areas, rather than simply paying lip service to them.

(iii) CSFs and KPIs

Critical success factor	Key performance indicator
Financial success	
Balancing income and expenditure	operating surplus/deficit
Cost efficient operation	cost per procedure
Customer satisfaction	
Admission waiting time	average time on waiting list
Procedure success rates	% of successful procedures
	Number of emergency readmissions
Quality of treatment	number of complaints
Process efficiency	
Treatment time	average length of hospital stay
Emergency response time	ambulance waiting time
Organisational learning and growth	
Quality of staff	number of qualified staff employed
Staff morale	staff satisfaction surveys
	Labour turnover/ absence rates

(only four measures were required)

2 **(a)** Price per litre

Variable cost plus

	£ per litre
Variable cost	0·20
300 % mark up	0·60
Selling price (£0·2 x 4)	0·80

Absorption cost plus

	£ per litre
Variable cost	0·20
Overhead (400%)	0·80
Production cost	1·00
Margin (£1·00 x 20 ÷ 80)	0·25
Selling price (£1·00 ÷ 0·8)	1·25

Activity-based costing plus

	£ per litre
Variable cost	0·20
Stores administration (12 x £100 ÷ 4,000)	0·30
Technician salaries (8 x £300 ÷ 4,000)	0·60
Despatch (10 x £200 ÷ 4,000)	0·50
	1·60
Margin (£1·60 x 20 ÷ 80)	0·40
Selling price(£1·60 ÷ 0·8)	2·00

(b) Activity-based Costing

Traditional absorption costing was developed at a time when many organisations produced only a narrow range of products and when overhead costs were only a small fraction of total costs. For many companies these circumstances no longer exist, and this appears to be the case for Bennett.

- As is common in many process industries the majority of Bennett's costs are fixed. Its fixed costs are also common to all of its products. The way in which these costs are charged to products will have a significant effect on product cost.
- The manufacture of Zoom is more complicated than Bennett's usual products, using more ingredients and requiring more mixing. Activity-based costing recognises that activities cause overhead cost: the more complex the product the more likely it is to create demand for activities and hence cause overheads to be incurred. In contrast many traditional absorption-costing systems assume that products cause overheads in proportion to their production volumes and allocate large proportions of overhead to high volume products.
- Bennett's overhead absorption rate is based upon material cost. Under this approach products with more expensive materials will be charged with more overheads even though the cost of their materials does not necessarily cause more overheads to be incurred.
- Bennett faces strong price competition in all of its products. It is therefore important that all of its products have the most accurate costing possible in order to set competitive prices, whilst at the same time covering their costs.

(c) Advantages and disadvantages of cost plus pricing.

Advantages
- Cost plus pricing offers a simple way of pricing products. For firms with a large number of products to price it is important that pricing decisions can be safely delegated to junior management.
- Cost plus pricing is sometimes seen as a way of justifying prices. Firms who use it can be seen as taking a 'fair' margin on cost. Cost plus arguments are commonly used as a way of justifying price increases.
- The mark up charged could be varied between products (and customers) depending upon market conditions.
- Basing prices on full cost plus should ensure that a company working at normal capacity will cover its fixed costs and earn a profit.

Disadvantages
- In its simplest form cost plus pricing fails to recognise that there is a relationship between the price charged and the quantity sold. For example a firm faced with falling demand (and hence a higher unit cost due to fixed costs being spread more thickly over a smaller number of units) would, under the logic of cost plus pricing, increase its price!
- Again in its simplest form it fails to allow for competition. In many markets the price charged by competitors is a major determinant of prices charged.
- In companies that sell more than one product the price determined by the cost plus formula is significantly affected by the method used to charge overhead costs to products. Arbitrary treatment of overhead will lead to arbitrary prices.
- Cost plus pricing can lead to a complacent attitude to cost control and the attitude that cost increases can be passed on to customers in higher prices. In a competitive market this is a dangerous attitude.

(only two advantages and two disadvantages were required)

3 (a) Variances

Direct Materials

Actual usage at actual rate		£56,000
	i Direct material price variance	>£2,000 A
Actual usage at standard rate 9,000 kgs at £6·00 per kg		£54,000
	ii Direct material usage variance	> £2,400 A
Standard usage at standard rate 4,300 units x 2 kgs x £6·00		£51,600

Direct Labour

Actual hours paid at actual rate		£32,800
	iii Direct labour rate variance	> £600 A
Actual hours paid at standard rate 4,600 hrs x £7·00 per hr		£32,200
	iv Direct labour idle time variance	> £4,200 A
Actual hours worked at standard rate 4,000 hrs x £7·00 per hr		£28,000
	v Direct labour efficiency variance	> £2,100 F
Standard hours at standard rate 4,300 units x 1 hr x £7·00		£30,100

Fixed Overheads

Actual fixed overhead		£35,000
	vi Fixed overhead expenditure variance	> £1,000 F
Budgeted fixed overhead 4,000 units x £9 per unit		£36,000
	vii Fixed overhead volume variance	> £2,700 F
Standard fixed overhead 4,300 units x £9 per unit		£38,700

(b) Meaning and potential causes of variances

(i) Direct labour rate variance.
This measures the effect of paying actual labour hours at a different rate from standard. In this case the variance is £600 adverse and could be due to overtime working at premium rates, using higher grade more expensive labour or possibly as a result of a recent wage settlement.

(ii) Idle time variance.
This measures the cost (at standard rate) of having to pay wages for time at work although no actual work is being done. It is usually the result of a production stoppage and could be caused by a machine breakdown, running out of material, a shortage of customer orders or a labour dispute elsewhere in the business.

(iii) Direct labour efficiency variance.
This measures the effect of working more or less than standard hours to produce the actual level of output, measured at standard labour cost per hour. In this case the variance is £2,100 favourable and indicates that actual production was completed more quickly than standard. This could be due to a better motivated workforce, better working conditions or more skilled labour. If the variance were due to using more highly skilled labour this would also explain the adverse rate variance.

4 (a) Production plan

(i) When labour is unlimited.

	A	B	C	D
	£	£	£	£
'Make' variable cost per unit	8	14	14	20
'Buy in' cost per unit	10	16	13	25
Saving from making	2	2	(1)	5
Decision	make	make	buy	make
Production units	10,000	50,000	0	60,000
Buy units			120,000	

(ii) When labour is limited to 145,000 hours per period.

C will continue to be bought outside, as it is cheaper. There is insufficient labour to make all of the other components (Hours required 10,000 + 75,000 + 90,000 = 175,000); therefore Mabbutt plc should make the components that offer the biggest cost saving per scarce labour hour.

	A	B	D
	£	£	£
'Make' variable cost per unit	8	14	20
'Buy in' cost per unit	10	16	25
Saving from making	2	2	5
Labour hours per unit	1·0 hours	1·5 hours	1·5 hours
Saving per labour hour	£2·00 per hour	£1·33 per hour	£3·33 per hour
Rank for making	2nd	3rd	1st

Production plan

Make	Labour hours
60,000 units of D	60,000 units x 1·5 = 90,000 hours
10,000 units of A	10,000 units x 1·0 = 10,000 hours
30,000 units of B	30,000 units x 1·5 = 45,000 hours
	145,000 hours

Buy
20,000 units of B (the production shortfall)
120,000 units of C (as above)

(b) Cost Reduction

Mabbutt plc could attempt to reduce the cost of the sub assemblies by one of the following actions:

- Reducing material cost by improving the efficiency of material usage, for example by reducing wastage.
- Reducing material cost by attempting to negotiate lower prices with suppliers or seeking bulk buy discounts.
- Value analysis could be used to find cheaper substitute materials.
- Labour efficiency could be improved by changing working method (possibly by using an organisation and methods study or a work study).
- Automation involving the substitution of machinery for labour could reduce cost.
- Value analysis could be used to find simpler designs leading to less production and quality control problems and hence lower cost.
- Reducing overheads by tighter budgeting and the use of activity based budgeting techniques.

Only four actions were required. The above points focus on cost reduction and value analysis. There are many other actions that could be taken, for example using standard costing to control costs, reducing stock holding costs by using JIT, using target costing, life-cycle costing etc. Any sensible, explained point will attract marks.

ACCA Certified Accounting Technician Examination – Paper T7
Planning, Control and Performance Management **December 2005 Marking Scheme**

1	**(a)**	Definition	2	
		sensible suggestion	1	
				3
	(b)	Contribution per unit 2 for each rev and cost, max 6 if not per unit	8	
		Total Contribution	2	
		Profit (Fixed cost 1, Total profit 1)	2	
				12
	(c)	Revised total contribution	2	
		Profit	1	
				3
	(d)	2 marks per advantage, max		6
	(e)	**(i)** Balanced scorecard explained	4	
		(ii) 0·5 per CSF and KPI, max	8	
		(iii) 1 mark per advantage	4	
				16
				40
2	**(a)**	Variable cost plus mark up	1	
		Absorption cost plus Overhead absorbed	2	
		Margin	1	
		Acivity based cost plus Stores administration	1	
		Technician salaries	1	
		Despatch	1	
		Margin	1	
				8
	(b)	2 marks per relevant point, max		6
	(c)	1·5 marks per adv and disadv, max		6
				20
3	**(a)**	2 marks per variance max		14
	(b)	1 mark per meaning, max	3	
		1 mark per cause, max	3	
				6
				20

4	**(a)**	**(i)**	1 mark per product	4	
		(ii)	Approach	2	
			Saving per hour	1	
			Make and buy plan, 1 each max	5	
					12
	(b)		2 marks per sensible point many suggestions are possible		8
					20