General Comments

Performance was very disappointing across the whole paper resulting in a pass rate that was not only much lower than that achieved in the May 2007 examination, but also lower than achieved in previous sittings of this paper.

The results were disappointing on the ten multiple-choice questions in Section A, where a number of candidates still fail to answer all ten questions, and on the shorter-form computational questions in the remainder of that section, which have often been a springboard for success in previous examinations. Candidates then frequently showed themselves to be insufficiently prepared for the analysis and application required in the longer-form scenario based questions. The choice from the two questions in Section C of the examination paper was made last by the vast majority of candidates and question 3 was the most popular choice.

Poor time management also seemed to adversely affect performance. A factor here was the often unnecessarily lengthy, detailed and at times repetitive workings that were provided in answer to the computational elements of all questions. Adequate workings are of course required for computational questions (apart from multiple-choice), for the benefit both of candidates and markers. However, time spent planning answers is time well spent if it reduces overall writing time. Candidates must also try to manage the time spent on each question in accordance with the marks available.

The overriding impression was that candidates were simply poorly prepared for the examination. Those candidates who were well prepared gained high marks. Candidates who failed this examination must try to prepare themselves for future examinations with a good knowledge of topic areas. In the examination they must read questions carefully, take time to establish the specifics of what is required and plan their answers. Reading time is provided in the examination for that purpose. Where required, narrative answers should be related to the question scenario.

Section A – 40 marks

Question 1.1

T Ltd uses a standard labour hour rate to charge its overheads to its clients' work. During the last annual reporting period production overheads were under-absorbed by £19,250. The anticipated standard labour hours for the period were 38,000 hours while the standard hours actually charged to clients were 38,500. The actual production overheads incurred in the period were £481,250.

The budgeted production overheads for the period were

A £456,000

B £462,000

C £475,000

D None of the above.

(2 marks)

The answer is **A**

Workings

	£
Underabsorbed	-19,250
Actual	481,250
Charged to clients	462,000

Overhead rate £462,000/38,500 = £12 per hour

Budgeted overheads = 38,000 x £12 = £456,000

Question 1.2

Operation B, in a factory, has a standard time of 15 minutes. The standard rate of pay for operatives is £10 per hour. The budget for a period was based on carrying out the operation 350 times. It was subsequently realised that the standard time for Operation B included in the budget did not incorporate expected time savings from the use of new machinery from the start of the period. The standard time should have been reduced to 12 minutes.

Operation B was actually carried out 370 times in the period in a total of 80 hours. The operatives were paid £850.

The operational labour efficiency variance was

A £60 adverse

B £75 favourable

C £100 adverse

D £125 adverse

(2 marks)

The answer is **A**

Workings

Actual time for 370 operations was 80 hours
Revised standard time per operation = 12 minutes = 0·2 hours
Revised expected time for actual operations = 370 x 0·2 = 74 hours
Operational labour efficiency variance = (80 - 74) x £10 = £60 adverse

Question 1.3

JP manufactures two joint products X and Y, and a by-product Z, in a single continuous process. The following information is available for period 3:

Raw materials input	20,000 litres
Raw material costs	$52,000
Conversion costs	$56,000
Outputs	10,000 litres of X, selling price $8 per litre
	8,000 litres of Y, selling price $6 per litre
	2,000 litres of Z, selling price $1 per litre

Process costs are apportioned on a sales value basis. There was no opening and closing inventory of raw materials. The revenue from the by-product is used to reduce the process costs.

What was the cost per litre of joint product X?

A $5·889

B $6·523

C $6·625

D $6·646

(2 marks)

The answer is **C**

Workings

$52,000 + $56,000 - $2,000 = $106,000

	Sales Value		Costs
X	$80,000	62·5%	$ 66,250
Y	$48,000	37·5%	$ 39,750
	$128,000		$106,000

$66,250 / 10,000 = $6·625

Question 1.4

A company has budgeted break-even sales revenue of £800,000 and fixed costs of £320,000 for the next period.

The sales revenue needed to achieve a profit of £50,000 in the period would be

A £850,000

B £925,000

C £1,120,000

D £1,200,000

(2 marks)

The answer is **B**

Workings

At breakeven total contribution equals fixed costs which equal £320,000.
C/S ratio = £320,000 ÷ £800,000 = 0·4
Revenue needed to earn £50,000 profit = £(320,000 + 50,000) ÷ 0.4 = £925,000

Question 1.5

The production volume ratio in a period was 95%.

Which statement will always be true?

A Actual hours worked exceeded the budgeted hours.

B Actual hours worked exceeded the standard hours of output.

C Budgeted hours exceeded the standard hours of output.

D Budgeted output was less than the actual output.

(2 marks)

The answer is **C**

Question 1.6

Two CIMA definitions follow:

1. A system that converts a production schedule into a listing of the materials and components required to meet that schedule so that adequate stock levels are maintained and items are available when needed.

2. An accounting oriented information system, generally software driven, which aids in identifying and planning the enterprise-wide resources needed to resource, make, account for and deliver customer orders.

Which of the following pairs of terms matches the definitions?

	Definition 1	*Definition 2*
A	Material requirements planning	Enterprise resource planning
B	Manufacturing resource planning	Material requirements planning
C	Material requirements planning	Manufacturing resource planning
D	Manufacturing resource planning	Enterprise resource planning

(2 marks)

The answer is **A**

Question 1.7

The fixed overhead volume variance is defined as

A the difference between the budgeted value of the fixed overheads and the standard fixed overheads absorbed by actual production.

B the difference between the standard fixed overhead cost specified for the production achieved, and the actual fixed overhead cost incurred.

C the difference between budgeted and actual fixed overhead expenditure.

D the difference between the standard fixed overhead cost specified in the original budget and the same volume of fixed overheads, but at the actual prices incurred.

(2 marks)

The answer is **A**

Question 1.8

Overheads will always be over-absorbed when

A actual output is higher than budgeted output.

B actual overheads incurred are higher than the amount absorbed.

C actual overheads incurred are lower than the amount absorbed.

D budgeted overheads are lower than the overheads absorbed.

(2 marks)

The answer is **C**

The following data are given for sub-questions 1.9 and 1.10 below

A manufacturing company recorded the following costs in October for Product X:

	$
Direct materials	20,000
Direct labour	6,300
Variable production overhead	4,700
Fixed production overhead	19,750
Variable selling costs	4,500
Fixed distribution costs	16,800
Total costs incurred for Product X	72,050

During October 4,000 units of Product X were produced but only 3,600 units were sold.
At the beginning of October there was no inventory.

Question 1.9

The value of the inventory of Product X at the end of October using marginal costing was:

A $3,080

B $3,100

C $3,550

D $5,075

(2 marks)

The answer is **B**

Workings

Marginal cost is the total of variable production costs. One tenth of the production is inventory at the end of the month and therefore the valuation is:

$(20,000 + 6,300 + 4,700)/10 = $3,100

Question 1.10

The value of the inventory of Product X at the end of October using throughput accounting was

A $630

B $1,080

C $1,100

D $2,000

(2 marks)

The answer is **D**

Workings

Throughput accounting values inventory at direct materials cost only:

$20,000/10 = $2,000

Question 1.11

A company has the following budgeted sales figures:

Month 1	£90,000
Month 2	£105,000
Month 3	£120,000
Month 4	£108,000

80% of sales are on credit and the remainder are paid in cash. Credit customers paying within one month are given a discount of 1·5%. Credit customers normally pay within the following time frame:

Within 1 month	40% of credit sales
Within 2 months	70% of credit sales
Within 3 months	98% of credit sales

There is an expectation that 2% of credit sales will become bad debts.

Outstanding receivables at the beginning of month 1 includes £6,000 expected to be received in month 4.

Calculate the total receipts expected in month 4.

(4 marks)

Workings

	Month 4	*£*
Cash sales	(108,000 x 0·2)	21,600
From month 3	(120,000 x 0·8 x 0·4 x 0·985)	37,824
From month 2	(105,000 x 0·8 x 0·3)	25,200
From month 1	(90,000 x 0·8 x 0·28)	20,160
From previous budget period		6,000
		110,784

Question 1.12

The budgeted total costs for two levels of output are as shown below:

Output	25,000 units	40,000 units
Total cost	£143,500	£194,000

Within this range of output it is known that the variable cost per unit is constant but fixed costs rise by £10,000 when output exceeds 35,000 units.

Calculate for a budgeted output of 36,000 units:

(i) the variable cost per unit;
(ii) the total fixed costs.

(3 marks)

Workings

(i) Variable cost per unit

[(£194,000 – £10,000 – £143,500) ÷ (40,000 – 25,000 units)] = **£2·70 per unit**

(ii) Total fixed costs

[£194,000 – (40,000 units × £2.70 per unit)] = **£86,000**

Question 1.13

A company can produce many types of product but is currently restricted by the number of labour hours available on a particular machine. At present this limitation is set at 12,000 hours per annum. One type of product requires materials costing $5 which are then converted to a final product which sells for $12. Each unit of this product takes 45 minutes to produce on the machine. The conversion costs for the factory are estimated to be $144,000 per annum.

Calculate the throughput accounting ratio for this product and state the significance of the result.

(3 marks)

Workings

Where: Return per factory hour = $\frac{\text{Sales price - Material cost}}{\text{Total time on key resource}}$

= (12-5)/0·75 = $9·33 per hour

And: Cost per factory hour = $\frac{\text{Total factory cost}}{\text{Total time on the key resource}}$

= 144,000/12,000 = $12 per hour

Throughput accounting (TA) ratio = $\frac{\text{Return per factory hour}}{\text{Cost per factory hour}}$

9·33/12 = 0·78

As the throughput accounting ratio is less than 1, the product should not be produced.

Question 1.14

A company manufactures three joint products in a continuous single process. Normal losses are 10% of inputs and do not have any value. Budget data is available for the month of January as follows:

Opening and closing work in progress	NIL
Direct materials input	20,000 kg at a cost of £36,000
Direct labour costs	3,000 hours @ £6 per hour
Variable production overheads	3,000 hours @ £1 per hour

Fixed production overheads are absorbed at a rate of £8 per direct labour hour.

	Expected outputs	*Selling price per kg*
Joint product A	9,000 kg	£8
Joint product B	6,000 kg	£6
Joint product C	3,000 kg	£4

Joint costs are apportioned on a physical unit basis.

Calculate the gross profit margin for each of the joint products.

(3 marks)

Workings

Total production costs:

Direct materials	£36,000
Direct labour	£18,000
Variable production overheads	£3,000
Fixed production overheads	£24,000
	£81,000

Cost per unit of output £81,000 / 18,000 = £4·50

	Product A	*Product B*	*Product C*
Selling price	£8	£6	£4
Production cost	£4·50	£4·50	£4·50
Gross profit	£3·50	£1·50	(£0·50)
Gross profit %	43·75%	25%	(12·5%)

Question 1.15

A company has the following balance sheet totals at the end of its most recent financial year:

	£million
Non-current assets	3·64
Current assets	0·42
Share capital and reserves*	2·69
Long term debt	1·00
Current liabilities	0·37

* Includes retained profit for the year of £320,000 after deducting:

Ordinary share dividends	£200,000
Interest on long term debt	£100,000
Taxation	£70,000

Calculate the Return on Investment (ROI) of the company for the year (using end year balance sheet values for investment).

(3 marks)

Workings

Return = £320,000 + £200,000 + £100,000 + £70,000 = £690,000
Investment = £3·64 million + £0·42 million - £0·37 million = £3·69 million
[(690,000 ÷ 3,690,000) × 100] = 18·7%

Question 1.16

A division is considering the purchase of a new machine which costs $1,500,000 and is expected to generate cost savings of $450,000 a year. The asset is expected to have a useful life of five years with no residual value. Depreciation is charged on a straight line basis. Divisional performance is evaluated on Residual Income (RI). The division's cost of capital is 10%.

Calculate for this machine for each of the five years:

(i) the Residual Income (RI);
(ii) the Return on Investment (ROI).

Note: When calculating performance measures the division always uses capital values as at the start of the year.

(4 marks)

Workings

	Year 1($)	*Year 2 ($)*	*Year 3 ($)*	*Year 4($)*	*Year 5 ($)*
Cost savings	450,000	450,000	450,000	450,000	450,000
Depreciation	300,000	300,000	300,000	300,000	300,000
Profit	150,000	150,000	150,000	150,000	150,000
Cost of capital	150,000	120,000	90,000	60,000	30,000
RI	nil	30,000	60,000	90,000	120,000
ROI	10%	12·5%	16·7%	25%	50%
Capital value ($m)	1·5	1·2	0·9	0·6	0·3

Section B – 30 marks
ANSWER ALL SIX SUB-QUESTIONS. EACH SUB-QUESTION IS WORTH 5 MARKS

Question 2(a)

Prepare a materials purchase budget for Quarter 1.

(5 Marks)

Rationale

Question 2(a) covers learning outcome C(iii) - *Calculate projected revenues and costs based on product/service volumes, pricing strategies and cost structures.*

Suggested Approach

- Calculate the closing inventory of finished goods both in Q1 and Q2
- Calculate the production units for both periods based on these inventory requirements
- Calculate the closing inventory of raw materials in Q1 based on the production units in Q2
- Calculate the budgeted raw material usage (kg) and the budgeted raw material purchases (kg & £)

Marking Guide	**Marks**
Inventory calculations	2
Inventory adjustments	2
Raw materials required for production	½
Purchase value	½

Examiner's Comments

Most candidates scored fairly well on this part

Common Errors

- Failing to value the purchases or using £9 per kg
- Reversing the inventory adjustments
- Miscalculating the inventory requirements, especially raw materials

Question 2(b)

In Quarter 3 the opening and closing inventories of finished goods will be 5,600 units and 4,200 units respectively. QBQ adjusts for any under- or over-absorption of overheads at the end of each quarter.

Assume that production and sales volumes were as budgeted and that inventory levels were as planned. Also assume that all costs and revenues were as budgeted.

(i) Calculate using marginal costing the profit for Quarter 3;
(ii) Calculate using absorption costing the profit for Quarter 3;
(iii) Explain the difference, if any, in the profits you have calculated.

(5 Marks)

Rationale

Question 2(b) covers learning outcome A(i) - *Compare and contrast marginal and absorption costing methods in respect of profit reporting and stock valuation.*

Suggested Approach

- (i) Calculate unit contribution, total contribution and fixed costs
- (ii) Calculate gross profit, fixed administration costs and over-absorbed fixed production overhead
- (iii) Identify the reasons why absorption costing would report a lower profit

Marking Guide	**Marks**
(i) Marginal costing profit	1
(ii) Absorption costing profit (before adjustment)	1
Over-absorbed fixed production overhead	1
(iii) Inventory change	1
Fixed production overheads in inventory	1

Examiner's Comments

Very few candidates successfully calculated the marginal and absorption costing profits. In answer to (ii), a number of candidates calculated the absorption costing profit from the marginal costing profit by means of the inventory difference. This gained full marks if the inventory difference was correct and if the profit was adjusted in the right direction i.e. this part of the answer was marked on the basis of the candidate's own figure for marginal costing profit

Common Errors

- Basing the cost of sales on production units
- Calculating the fixed costs incorrectly
- Omitting or miscalculating the over-absorbed fixed production overhead in (ii)
- Providing an erroneous or unclear explanation in (iii): for example, many candidates seemed to think that fixed overheads are included in the calculation of absorption costing profit but not in the calculation of marginal costing profit

Question 2(c)

Explain, giving examples, how budgets can be used for feedback control and feed-forward control.

(5 Marks)

Rationale

Question 2(c) covers learning outcome C(x) - *Explain the ideas of feedback and feed-forward control and their application in the use of budgets for control.*

Suggested Approach

- Describe feedback control
- Identify an example of feedback control
- Describe feedforward control
- Identify an example of feedforward control

Marking Guide	**Marks**
Descriptions (up to 2 each)	4
Examples	2
	5 max

Examiner's Comments

There were many very lengthy answers particularly from candidates who did not know what feedback and feedforward controls are.

Common Errors

- Not knowing what feedback and feedforward controls are
- Failing to distinguish clearly between feedback and feedforward
- In particular, demonstrating a lack of understanding as to how feedforward control might operate, often thinking that it was simply action taken as a consequence of feedback control

Question 2(d)

Briefly explain **three** reasons why budgetary planning and control might be inappropriate in a rapidly changing business environment.

(5 Marks)

Rationale

Question 2(d) covers learning outcome C(xiv) – *Evaluate the criticisms of budgeting particularly from the advocates of techniques that are 'beyond budgeting'*

Suggested Approach

- Consider the key aspects of budgetary planning and control
- Consider the features of a rapidly changing business environment
- Explain three reasons why rapid change may adversely affect key aspects of budgetary planning and control

Marking Guide	**Marks**
Up to 2 marks for each justified reason	5 max

Examiner's Comments

A lot of repetition was evidenced in candidates' answers.

Common Errors

- Failing to link answers to a rapidly changing business environment
- Focussing on standard costing alone (the subject of Q2(b) May 2007) or simply on features of budgetary planning and control

Question 2(e)

Briefly explain Just-in-Time (JIT) and **two** major requirements for the successful operation of a JIT system.

(5 Marks)

Rationale

Question 2(e) covers learning outcome A(viii) - *Evaluate the impact of just-in-time manufacturing methods on cost accounting and the use of 'back-flush accounting' when work-in-progress stock is minimal.*

Suggested Approach

- Explain what JIT is
- Describe two key operational features of a successful JIT system

Marking Guide	**Marks**
JIT	2 max
Major requirements for successful operation (up to 2 for each)	4
	5 max

Examiner's Comments

This part was generally answered well. There were no common errors.

Question 2(f)

A nursing home uses incremental budgeting. The previous period's budget is adjusted by reference to a set of indices. It is adjusted firstly for 'volume changes' and then for changes in the cost of resources. The indices are referenced to the previous period's budget by using that budget as the base index number of 100. The index numbers to be used to prepare Period 3's budget from that of Period 2 are as follows:

	Index
Patient days	90
House-keeping costs	106
Nursing costs	105
Administration costs	104

The budget for Period 2 was:

	£
House-keeping costs (all variable)	125,000
Nursing costs (see below)	324,000
Administration costs (all fixed)	100,000

Nursing costs are semi-variable. The nursing costs for Period 2 were adjusted from the total nursing costs of £280,000 for Period 1 by using a Patient days index of 125 and a Nursing costs index of 108.

Prepare the budget for Period 3.

(5 marks)

Rationale

Question 2(f) covers learning outcome C(ii) - *Calculate projected product/service volumes employing appropriate forecasting techniques.*

Suggested Approach

- Apply relevant indices to P2 house-keeping and administration costs in order to calculate the P3 budget
- Analyse the nursing costs into variable and fixed elements for P1
- Use the indices provided for P2 & P3 to calculate separately the budgeted variable and the budgeted fixed nursing costs in P3

Marking Guide	**Marks**
House-keeping costs	1
Variable nursing costs	2.5
Fixed nursing costs	1
Administration costs	0.5

Examiner's Comments

This part was answered poorly, especially the calculation of nursing costs.

Common Errors

- Failing to adjust costs using the indices provided in the question
- Failing to analyse the nursing costs correctly, if at all, into variable and fixed elements

Section C – 30 marks

ANSWER *ONE* OF THE TWO QUESTIONS

Question 3(a)

Calculate the budgeted and actual profits for each of the profit centres and for the whole company for the year.

(4 marks)

Rationale

Question 3(a) covers learning outcome A(v) - *Apply standard costing methods within costing systems and demonstrate the reconciliation of budgeted and actual profit margins.*

Suggested Approach

- Use budgeted average profit per job and budgeted number of jobs to calculate the budgeted profit
- Use actual average profit per job and actual number of jobs to calculate the actual profit (before adjustment for under-absorption of central services costs)
- Calculate and adjust for the under-absorbed central services costs

Marking Guide	Marks
Budgeted profit	1
Actual profit (before central services cost adjustment)	1
Central services cost adjustment	2

Examiner's Comments

This was a straightforward question that led to the award of between two and four marks for most candidates. A variety of treatments were accepted for the under-absorbed Central Services Division costs.

Common Errors

- Not appreciating that the actual costs of the Central Services Division were not fully recovered in the recharge per job and as a result calculating the actual profit as $8.75m
- Failing to provide totals for the company as well as totals for each profit centre

Question 3(b)

Calculate the sales price variances and the sales mix profit and sales quantity profit variances.

(6 marks)

Rationale

Question 3(b) covers learning outcome B(ii) - *Calculate and interpret material, labour, variable overhead, fixed overhead and sales variances.*

Suggested Approach

- Calculate the sales price variance for each profit centre by comparing the actual sales revenue with the sales revenue that would have been received at budgeted selling prices
- Split the actual total number of jobs for WC between the two profit centres in budgeted proportions
- Calculate the sales mix profit variance for each profit centre based on the differences between actual and budgeted mix of jobs at the budgeted profit per job
- Calculate the sales quantity profit variance based on the difference between the budgeted and actual number of jobs, valued at the budgeted average profit per job for the budgeted sales mix

Marking Guide	**Marks**
Sales price variances	2
Sales mix profit variances	2
Sales quantity profit variances	2

Examiner's Comments

The sales price variances were frequently correct but candidates were generally unable to calculate mix and quantity variances correctly (if attempted).

Common Errors

- Calculating the average sales price variances per job only
- Valuing sales mix and quantity variances at standard sales value rather than at standard profit
- Demonstrating inability to calculate mix quantities
- Attempting to calculate the sales **volume** profit variance (not asked for and often not labelled as such) either instead of, or as well as, attempting to calculate the mix and quantity variances
- Making errors with the signage of the variances (adverse or favourable)

Question 3(c)

Prepare a statement that reconciles the budgeted and actual profits and shows appropriate variances in as much detail as possible.

(10 marks)

Rationale

Question 3(c) covers learning outcome B(iii) - *Prepare and discuss a report which reconciles budget and actual profit using absorption and/or marginal costing principles.*

Suggested Approach

- Calculate the cost variances (not required in answer to part (b))
- Consider the format of the required reconciliation statement
- Set out a statement containing the results of the calculations in parts (a) and (b), as well as the cost variances

Marking Guide	**Marks**
Actual and budgeted profit	1
Expected profit on actual sales	1
Direct cost variances calculation	2
Central services expenditure variance calculation	2
Central services volume variance calculation	2
Variances in statement	1
Format/layout of statement	1

Examiner's Comments

Most candidates were able to construct a reconciliation statement of the correct general form.

Common Errors

- Not calculating, and/or labelling, the expected profit on actual sales
- Making no attempt to calculate, or include in the statement, the cost variances
- Calculating direct cost volume variances (already taken account of in the sales profit variances) as well as the variances arising from differences between budget and actual average costs
- Failing to deal with the Central Services Division costs
- Poor labelling of cost variances
- Making errors with the signage of the variances (adverse and favourable)
- Using a poor layout for the statement

Question 3(d)

Using the statement that you prepared in part *(c)* above, discuss

(i) the performance of the company for the year; and
(ii) potential changes to the budgeting and reporting system that would improve performance evaluation within the company.

(10 marks)

(Total for Question Three = 30 marks)

Rationale

Question 3(d) covers learning outcome C(ix) – *Identify controllable and uncontrollable costs in the context of responsibility accounting and explain why 'uncontrollable' costs may or may not be allocated to responsibility centres.*

Suggested Approach

- Assess the overall performance of WC
- Discuss the likely causes/implications of each of the variances
- Consider deficiencies in the current reporting/performance evaluation system indicated by the question scenario
- Suggest changes and explain why they would improve the system

Marking Guide	**Marks**
1 mark available per relevant point	10 max

Examiner's Comments

Most candidates were able to put into words the figures calculated in parts (a), (b) and (c) but answers were often limited in terms of further analysis and suggestions for improved performance evaluation.

Common Errors

- Failing generally to apply the analysis to the particular scenario: highly customised designs and different off-the-shelf packages will have implications for average sales prices and average costs. The sales mix (both between types of jobs within each profit centre and between profit centres) will be a significant factor influencing both sales price and costs
- Failing generally to appreciate the limitations of high level 'average' data
- Making reference to ABC but frequently failing to develop further its possible application

Question 4(a)

Assume that the 300,000 chips are supplied by the European subsidiary at a transfer price of $95 per chip. Calculate the impact on the profits of each of the subsidiaries and the group.

(5 marks)

Rationale

Question 4(a) covers learning outcome D(iii) - *Prepare revenue and cost information in appropriate formats for profit and investment centre managers, taking due account of cost variability, attributable costs, controllable costs and identification of appropriate measures of profit centre 'contribution'.*

Suggested Approach

- Calculate the incremental impact on Europe (increased volume, contribution and fixed costs) or calculate revised total sales, costs and profit to compare with the current situation
- Calculate the extra cost, and thus reduced profit, in America
- Calculate the effect on the Group profit

Marking Guide	**Marks**
Europe:	
Increased volume	1
Increased contribution	1
Increased fixed costs	1
America:	
Profit reduction	1
Group:	
Profit increase	1

Examiner's Comments

Reasonable attempts were made by the candidates who chose to answer this question.

Common Errors

- Missing the fact that the variable costs would reduce to $50 per chip on transfers from the European subsidiary to the American subsidiary
- Not appreciating that the effect on the group profit would be the sum of the effects on the two subsidiaries' profits

Question 4(b)

Calculate the minimum unit price at which the European subsidiary would be willing to transfer the 300,000 chips to the American subsidiary if the performance and salary of the Manager of the subsidiary is to be based on

(i) the profit of the subsidiary (currently $7 million)
(ii) the return on assets consumed by the subsidiary (currently 35%).

(9 marks)

Rationale

Question 4(b) covers learning outcome D(iv) - *Calculate and apply measures of performance for investment centres (often 'strategic business units' or divisions of larger groups).*

Suggested Approach

Various approaches were possible for both sub-parts. The most direct approaches were to:

- (i) Calculate the reduction in transfer price per unit that would negate the incremental profit for Europe calculated in part (a)
- (ii) Calculate the reduction in transfer price per unit that would result in a reduction in the incremental profit from (a) to a level representing a return of 35% on assets consumed

Marking Guide	**Marks**
(i)	
Profit required	1
Reduction in transfer price	2
Revised transfer price	2
(ii)	
Profit required	1
Reduction in transfer price	2
Revised transfer price	1

Examiner's Comments

The calculations in answer to part (i) were very straightforward for those candidates who had identified no profit change for the European subsidiary in answer to part (a). This resulted from a failure, in part (a), to include the reduction in variable costs to $50 per chip on the transfers to America. This was nevertheless awarded full marks in (b)(i) where appropriate on an 'own figure basis'. However, there was a general failure by candidates to appreciate what was required, especially in answer to (b)(ii), although a variety of valid approaches to each of the calculations were possible, and accepted where used correctly.

Question 4(c)

Write a report to the Managing Director of the group that discusses issues raised by the directive and the introduction of performance measures. (You should use your answers to parts *(a)* and *(b)*, where appropriate, to illustrate points in your report).

(10 marks)

Rationale

Question 4(c) covers learning outcome D(v)- *Discuss the likely behavioural consequences of the use of performance metrics in managing cost, profit and investment centres.*

Suggested Approach

- Identify potential issues arising from the directive and from the introduction of performance measures
- Consider their implications for each subsidiary in the light of the answers to parts (a) and (b)

Marking Guide	**Marks**
1 mark available per relevant point	10 max

Examiner's Comments

The general failure by candidates to answer part (b) impacted on the answers to part (c) which were frequently very brief. There were no common errors in this part.

Common Errors

- Failing to appreciate the implications of the directive for subsidiary autonomy
- Failing to appreciate the implications of the possible transfer prices for performance and motivation of subsidiaries, especially in the context of the proposed new performance measures

Question 4(d)

Briefly explain how multi-national companies can use transfer pricing to reduce their overall tax charge and the steps that national tax authorities have taken to discourage the manipulation of transfer prices.

(6 marks)

(Total for Question Four = 30 marks)

Rationale

Question 4(d) covers learning outcome D(vii) -*Identify the likely consequences of different approaches to transfer pricing for divisional decision making, divisional and group profitability, the motivation of divisional management and the autonomy of individual divisions.*

Suggested Approach

- Discuss the implications for transfer pricing of different tax rates applying in different countries
- Identify the need for high transfer prices for goods and services provided from low tax countries and vice versa
- Identify steps taken by authorities to prevent abuse/manipulation

Marking Guide	**Marks**
1 mark available for each relevant point	6 max

Examiner's Comments

The candidates who answered question 4 generally handled this part fairly well. They were able to describe and demonstrate the potential implications for transfer pricing where taxation rates differ between countries, and to show some appreciation of the steps taken by authorities to prevent abuse. There were no common errors in this part.