General Comments

The results achieved on this paper were a very significant improvement on any previous sitting. The improvement was seen in all sections of the paper although differences in performance were demonstrated between questions 3 and 4 in Section C. Overall, the results did not suffer from the change of question paper format, with a transfer of ten marks from the shorter-form questions in section A to the longer-form questions in Section C.

Achievement on the ten multiple-choice questions and on the shorter-form calculation questions in Section A was particularly good (although it was once again the case that some candidates did not attempt all of the multiple-choice questions) and gave a large majority of candidates every opportunity for success. This was not always achieved due to weaker performance on the parts of questions requiring narrative answers in Sections B and C of the paper and on the calculations and statements required in question 3.

Lack of preparation seemed once again to be a factor although there was much less evidence of time pressures and poor time management at this sitting. Narrative sections, for example, were invariably reasonably attempted, certainly in terms of length of answer. However the answers were at times lacking in depth of content and/or in relevance to the question. However, the improved performance in question 2 (compulsory Section B), seen over the last couple of sittings, was certainly maintained.

The choice from the two questions in Section C of the examination paper was made last by the vast majority of candidates and there was an even split between the questions. There were some good attempts at both optional questions but there were also a worrying number of candidates making fundamental errors, particularly in question 3. Candidate must remember that, in order to gain maximum marks for Section C questions, they must relate their answers to the given scenario.

Section A – 40 marks

Question 1.1

Which of the following best describes an investment centre?

A A centre for which managers are accountable only for costs.

B A centre for which managers are accountable only for financial outputs in the form of generating sales revenue.

C A centre for which managers are accountable for profit.

D A centre for which managers are accountable for profit and current and non-current assets.

(2 marks)

The answer is **D**

Question 1.2

A flexible budget is

A a budget which, by recognising different cost behaviour patterns, is designed to change as volume of activity changes.

B a budget for a twelve month period which includes planned revenues, expenses, assets and liabilities.

C a budget which is prepared for a rolling period which is reviewed monthly, and updated accordingly.

D a budget for semi-variable overhead costs only.

(2 marks)

The answer is **A**

Question 1.3

The term “budget slack” refers to the

A lead time between the preparation of the master budget and the commencement of the budget period.

B difference between the budgeted output and the actual output achieved.

C additional capacity available which is budgeted for even though it may not be used.

D deliberate overestimation of costs and/or underestimation of revenues in a budget.

(2 marks)

The answer is **D**

Question 1.4

PP Ltd is preparing the production and material purchases budgets for one of their products, the SUPERX, for the forthcoming year.

The following information is available:

SUPERX	
Sales demand (units)	30,000
Material usage per unit	7 kgs
Estimated opening inventory	3,500 units
Required closing inventory	35% higher than opening inventory

How many units of the SUPERX will need to be produced?

A 28,775

B 30,000

C 31,225

D 38,225

(2 marks)

The answer is **C**

Workings

	Units
Sales	30,000
Req'd closing inventory	4,725
Less opening inventory	(3,500)
Production	

The following data are given for sub-questions 1.5 and 1.6 below

X Ltd operates a standard costing system and absorbs fixed overheads on the basis of machine hours. Details of budgeted and actual figures are as follows:

	Budget	*Actual*
Fixed overheads	£2,500,000	£2,010,000
Output	500,000 units	440,000 units
Machine hours	1,000,000 hours	900,000 hours

Question 1.5

The fixed overhead expenditure variance is

A £190,000 favourable

B £250,000 adverse

C £300,000 adverse

D £490,000 favourable

(2 marks)

The answer is **D**

Workings

Budget	£2,500,000	
Actual	£2,010,000	
Variance	£490,000	favourable

Question 1.6

The fixed overhead volume variance is

A £190,000 favourable

B £250,000 adverse

C £300,000 adverse

D £490,000 favourable

(2 marks)

The answer is **C**

Workings

Budgeted volume	500,000	units
Actual volume	440,000	units
	60,000	units
OAR		
2 hours x £2·50	x £5 per unit	
Volume variance	£300,000 adverse	

Question 1.7

A company operates a standard absorption costing system. The budgeted fixed production overheads for the company for the latest year were £330,000 and budgeted output was 220,000 units. At the end of the company's financial year the total of the fixed production overheads debited to the Fixed Production Overhead Control Account was £260,000 and the actual output achieved was 200,000 units.

The under / over absorption of overheads was

A £40,000 over absorbed

B £40,000 under absorbed

C £70,000 over absorbed

D £70,000 under absorbed

(2 marks)

The answer is **A**

Workings

	£
Absorbed (200,000 units x £1·50)	300,000
Incurred	260,000
Over absorbed	40,000

Question 1.8

A company operates a standard absorption costing system. The following fixed production overhead data are available for the latest period:

Budgeted Output	300,000 units
Budgeted Fixed Production Overhead	£1,500,000
Actual Fixed Production Overhead	£1,950,000
Fixed Production Overhead Total Variance	£150,000 adverse

The actual level of production for the period was nearest to

A 277,000 units

B 324,000 units

C 360,000 units

D 420,000 units

(2 marks)

The answer is **C**

Workings

Actual fixed production overhead cost	£1,950,000	
Total variance	£150,000	adverse
Absorbed	£1,800,000	
OAR per unit	£5	
	360,000	units

Question 1.9

Which of the following best describes a basic standard?

A A standard set at an ideal level, which makes no allowance for normal losses, waste and machine downtime.

B A standard which assumes an efficient level of operation, but which includes allowances for factors such as normal loss, waste and machine downtime.

C A standard which is kept unchanged over a period of time.

D A standard which is based on current price levels.

(2 marks)
The answer is **C**

Question 1.10

XYZ Ltd is preparing the production budget for the next period. The total costs of production are a semi-variable cost. The following cost information has been collected in connection with production:

Volume (units)	*Cost*
4,500	£29,000
6,500	£33,000

The estimated total production costs for a production volume of 5,750 units is nearest to

A £29,200

B £30,000

C £31,500

D £32,500

(2 marks)

The answer is **C**

Workings

		Activity	*Cost*	
High Low Method				
	Highest	6,500	£33,000	
	Lowest	4,500	£29,000	
	Difference	2,000	£4,000	
	Variable cost per unit		£2	
	Substitute into highest activity	6,500	£33,000	Total cost
		6,500 x £2	£13,000	Variable cost
		Difference	£20,000	Fixed cost
	Therefore	5,750 x £2	£11,500	Variable cost
			£20,000	Fixed cost
			£31,500	Total cost

Question 1.11

S Ltd manufactures three products, A, B and C. The products use a series of different machines but there is a common machine, P, that is a bottleneck.

The selling price and standard cost for each product for the forthcoming year is as follows:

	A	*B*	*C*
	$	*$*	*$*
Selling price	200	150	150
Direct materials	41	20	30
Conversion costs	55	40	66
Machine P - minutes	12	10	7

Calculate the return per hour for each of the products.

(4 marks)

Workings

	A	*B*	*C*
	$	*$*	*$*
Selling price	200	150	150
Direct materials	41	20	30
Throughput	159	130	120
Machine P – minutes per unit	12	10	7
Return per factory hour			
	159/12	130/10	120/7
	$13·25	$13	$17·14
x 60 minutes	**$795**	**$780**	**$1,028**

Question 1.12

The following data have been extracted from a company's year-end accounts:

	£
Turnover	7,055,016
Gross profit	4,938,511
Operating profit	3,629,156
Non-current assets	4,582,000
Cash at bank	4,619,582
Short term borrowings	949,339
Trade receivables	442,443
Trade payables	464,692

Calculate the following four performance measures:

(i) Operating profit margin;
(ii) Return on capital employed;
(iii) Trade receivable days (debtors days);
(iv) Current (Liquidity) ratio.

(4 marks)

Workings

Operating profit margin	(3,629,156/7,055,016) x 100 = 51·44%
Return on capital employed	[3,629,156/(4,582,000 + 4,619,582 + 442,443 - 949,339 - 464,692)] x 100 = 44·10%
Trade receivable days	(442,443/7,055,016) x 365 days = 22·89 days
Current/liquidity ratio	(4,619,582 + 442,443)/(949,339 + 464,692) = 3·58 times

Question 1.13

PQR Ltd operates a standard absorption costing system. Details of budgeted and actual figures are as follows:

	Budget	*Actual*
Sales volume (units)	100,000	110,000
Selling price per unit	£10	£9·50
Variable cost per unit	£5	£5·25
Total cost per unit	£8	£8·30

(i) Calculate the sales price variance.

(2 marks)

(ii) Calculate the sales volume profit variance.

(2 marks)

Workings

Sales price variance

Budgeted selling price	£10·00	
Actual selling price	£9·50	
	£0·50	adverse
Actual sales volume (units)	110,000	
	£55,000	adverse

Sales volume profit variance

Budgeted sales volume (units)	100,000	
Actual sales volume (units)	110,000	
	10,000	favourable
Standard profit per unit	£2	
	£20,000	favourable

Question 1.14

WX has two divisions, Y and Z. The following budgeted information is available.

Division Y manufactures motors and budgets to transfer 60,000 motors to Division Z and to sell 40,000 motors to external customers.

Division Z assembles food mixers and uses one motor for each food mixer produced.

The standard cost information per motor for Division Y is as follows:

	£
Direct materials	70
Direct labour	20
Variable production overhead	10
Fixed production overhead	40
Fixed selling and administration overhead	10
Total standard cost	150

In order to set the external selling price the company uses a 33·33% mark up on total standard cost.

(i) Calculate the budgeted profit/(loss) for Division Y if the transfer price is set at marginal cost.

(ii) Calculate the budgeted profit/(loss) for Division Y if the transfer price is set at the total production cost.

(4 marks)

Workings

(i) Budgeted loss – marginal cost transfer price

		£000
Sales		
Internal	60,000 x £100	6,000
External	40,000 x (£150 x 1·3333)	8,000
		14,000
Variable cost	100,000 x £100	10,000
Contribution		4,000
Fixed costs		
Production	100,000 x £40	4,000
Administration	100,000 x £10	1,000
Loss		(1,000)

(ii) Budgeted profit – absorption cost transfer price

		£000
Sales		
Internal	60,000 x £140	8,400
External	40,000 x (£150 x 1·3333)	8,000
		16,400
Variable cost	100,000 x £100	10,000
Contribution		6,400
Fixed costs		
Production	100,000 x £40	4,000
Administration	100,000 x £10	1,000
Profit		1,400

Question 1.15

RF Ltd is about to launch a new product in June 2007. The company has commissioned some market research to assist in sales forecasting. The resulting research and analysis established the following equation:

$Y = Ax^{0.6}$
Where Y is the cumulative sales units, A is the sales units in month 1, x is the month number.
June 2007 is Month 1.
Sales in June 2007 will be 1,500 units.

Calculate the forecast sales volume for each of the months June, July and August 2007 and for that three month period in total.

(4 marks)

Workings

Forecast sales volume for June, July and August is:

Month	*Cumulative sales (units)*	*Monthly sales (units)*
June	1,500	1,500
July	2,274	774
August	2,900	626

Section B – 30 marks

ANSWER *ALL* SIX SUB-QUESTIONS. EACH SUB-QUESTION IS WORTH 5 MARKS

Question 2(a)

A company uses variance analysis to monitor the performance of the team of workers which assembles Product M. Details of the budgeted and actual performance of the team for last period were as follows:

	Budget	*Actual*
Output of product M	600 units	680 units
Wage rate	£30 per hour	£32 per hour
Labour hours	900 hours	1,070 hours

It has now been established that the standard wage rate should have been £31·20 per hour.

(i) Calculate the labour rate planning variance and calculate the operational labour efficiency variance.

(ii) Explain the major benefit of analysing variances into planning and operational components.

(5 Marks)

Rationale

Sub-question (a) covers learning outcome B(iv) - *Calculate and interpret planning and operational variances.*

Suggested Approach

(i) Adjust the budget by multiplying the budgeted hours by the revised standard wage rate per hour.
Calculate the standard hours of actual output and compare with the actual hours worked.
(ii) Consider the benefit of further analysis of traditional variances.

Marking Guide	**Marks**
(i) Planning variance (labour rate)	1
Standard hours of actual output	1
Operational variance (labour efficiency)	1
(ii) Major benefit of planning and operational variance analysis	2

Examiner's Comments

A large variety of calculations were performed in both parts of (i)

Common Errors

Planning variance:

- Using product units (both actual and budget) instead of labour hours
- Using the difference between the revised standard wage rate and the actual labour rate rather than the original standard rate
- Using the difference between the actual wage rate and the original standard rate i.e. calculating the total rate variance
- Using the actual hours rather than the budgeted/standard hours

Operational variance:

- Multiplying the difference in hours by the actual wage rate, or the original standard rate, rather than the revised standard rate
- Comparing the actual labour hours with the budgeted hours
- Multiplying the difference between the budgeted and the actual product units by one or other wage rate

Major benefit of analysis:

- Describing what the variances are
- Discussing the benefits of variance analysis generally
- With reference to the specific illustration, some candidates stated that the operational variance would have been larger if not for the change in standard – this was incorrect and not relevant to the answer anyway

Question 2(b)

Briefly explain three limitations of standard costing in the modern business environment.

(5 Marks)

Rationale

Sub-question (b) covers learning outcome B (i) - *Explain why and how standards are set in manufacturing and in service industries with particular reference to the maximisation of efficiency and minimisation of waste* and B(ii) - *Calculate and interpret material, labour, variable overhead, fixed overhead and sales variances.*

Suggested Approach

- Consider the key features of modern business – what has changed?
- Relate the impact of those changes to the usefulness of standard costing

Marking Guide	**Marks**
Up to 2 marks for each limitation	5

Examiner's Comments

This part was generally reasonably well answered

Common Errors

- Focussing on difficulties of applying standard costing generally without any reference to the modern business environment
- Discussing the use of different types of standard – ideal, basic etc

Question 2(c)

Briefly explain three factors that should be considered before deciding to investigate a variance.

(5 Marks)

Rationale

Sub-question (c) covers learning outcome B(ii) - *Calculate and interpret material, labour, variable overhead, fixed overhead and sales variances.*

Suggested Approach

- Consider situations where variance investigation may not yield benefits and the cost of investigation

Marking Guide	**Marks**
Up to 2 marks for each factor	5

Examiner's Comments

Well answered by most candidates.

Common Errors

- Focussing on the seasonality of business – this is likely to be anticipated and is unlikely to affect anything other than volume variances anyway
- Providing a simple listing rather than a brief explanation

Question 2(d)

G Group consists of several autonomous divisions. Two of the divisions supply components and services to other divisions within the group as well as to external clients. The management of G Group is considering the introduction of a bonus scheme for managers that will be based on the profit generated by each division.

Briefly explain the factors that should be considered by the management of G Group when designing the bonus scheme for divisional managers.

(5 Marks)

Rationale

Sub-question (d) 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

- Consider what factors may affect the fairness of the scheme and the motivation and decision-making of managers

Marking Guide	**Marks**
Transfer pricing aspects (up to 3)	
Other aspects (up to 3)	5

Examiner's Comments

There was a general failure to link answers to a bonus scheme and to appreciate that only two of the divisions supply to other divisions

Common Errors

- Discussing generic aspects of transfer pricing (e.g. impact on decision-making and goal congruence) without relating them to the design of a bonus scheme
- Failing to consider aspects other than transfer pricing

Question 2(e)

Briefly explain the role of a Manufacturing Resource Planning System in supporting a standard costing system.

(5 Marks)

Rationale

Sub-question (e) covers learning outcome A(vii) - *Explain the role of MRP and ERP systems in supporting standard costing systems.*

Suggested Approach

- Explain what a manufacturing resource planning system is
- Consider its link to a standard costing system

Marking Guide	**Marks**
Manufacturing resource planning explained	3
Link to standard costing	2

Examiner's Comments

This part of question 2 was generally not well answered.

Common Errors

- Confusing the system with materials requirements planning
- Demonstrating lack of knowledge of the features of a manufacturing resource planning system
- Including non-manufacturing activities in the discussion
- Failing to consider links to standard costing

Question 2(f)

Briefly explain the main differences between the traditional manufacturing environment and a just-in-time manufacturing environment.

(5 marks)

Rationale

Sub-question (f) covers learning outcome A(viii) - *Evaluate the impact of just-in-time manufacturing methods on cost accounting.*

Suggested Approach

- Describe the distinguishing features of both environments
- Explain the main differences between them

Marking Guide	**Marks**
Traditional manufacturing – push system/inventory	1
Just-in-time manufacturing – pull system/no inventory	1
Other differences (1 for each)	3

Examiner's Comments

Reasonably well answered by many candidates.

Common Errors

- Failing to consider features/differences other than push/pull

Section C – 30 marks
ANSWER *ONE* OF THE TWO QUESTIONS

Question 3(a)

Produce the budgeted operating statement in a marginal costing format.

(7 marks)

Rationale

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

Suggested Approach

- Calculate the fixed production overhead absorption rate
- Deduct fixed production overhead costs from total production costs in order to calculate the variable production costs per unit for each type of car
- Calculate the variable production cost of sales
- Calculate contribution and complete the marginal costing operating statement

Marking Guide	**Marks**
Fixed production overhead per machine hour	1
Variable production cost per car	1
Variable production cost of sales	1
Variable contribution	1
Contribution to general fixed costs	1
General fixed costs	1
Profit	1

Examiner's Comments

Part (a) of question 3 was not answered well by most candidates who chose this optional question. Both the content and the format of the marginal costing operating statement caused problems. Many candidates introduced inventory adjustments into their calculations/statements which were not necessary and caused difficulty.

Common Errors

- Apportioning the fixed production overheads to products on the basis of machine hours per car (i.e. 200:300)
- Calculating the fixed production overhead absorption rate based on the number of cars produced (i.e. the same amount of overhead for each type of car)
- Calculating the fixed production overhead absorption rate based on the number of machine hours to produce the sales volume
- Deducting the fixed production overheads absorbed into production units from the production cost of sales
- Deducting the variable costs of production from sales
- Failing to deduct variable administration costs to arrive at contribution
- Failing to separate the specific fixed costs
- Apportioning the general fixed costs to products

Question 3(b)

Reconcile the total budgeted absorption costing profit with the total budgeted marginal costing profit as shown in the statement you produced in part *(a).*

(5 marks)

Rationale

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

Suggested Approach

- Calculate the fixed production overhead content of the opening and closing inventories (or of the change in inventory) for each car
- Reconcile the profits

Marking Guide	**Marks**
Inventory differences ($)	2
Direction of adjustments	2
Reconciliation	1

Examiner's Comments

Some candidates understood that inventory valuation was the reason for the profit difference but few could provide the reconciliation.

Common Errors

- Making errors both of principle and of application in the calculation of inventory values
- Indicating the incorrect direction of the adjustment

Question 3(c)

Calculate the budgeted production cost of one Car X and one Car Y using the activity based costing information provided above.

(10 marks)

Rationale

Part (c) covers learning outcome A(vi) - *Compare activity-based costing with traditional marginal and absorption costing methods and evaluate its potential as a system of cost accounting.*

Suggested Approach

- Calculate the cost per driver for each activity
- Apply each cost driver rate to each type of car
- Sum the fixed production overhead costs for each type of car
- Include the direct production costs and calculate the total production cost for each type of car

Marking Guide	**Marks**
Cost per driver (5 × ½)	2½
Application to each type of car (5 × ½ × 2)	5
Inclusion of direct costs (2 × ½)	1
Calculation of unit costs	1½

Examiner's Comments

Many candidates were able to calculate the cost of stores receiving and of stores issues for each type of car but few were able to correctly calculate costs of the other activities.

Common Errors

- Failing to identify appropriate cost drivers (e.g. for machining the number of cars was frequently used)
- Failing to calculate and apply cost driver rates
- Not including direct costs
- Not calculating the cost per unit

Question 3(d)

Prepare a report to the Production Director of RJ which explains the potential benefits of using activity based budgeting for performance evaluation.

(8 marks)

Rationale

Part (d) covers learning outcome C(vi) – *Evaluate and apply alternative approaches to budgeting*

Suggested Approach

- Explain the activity-based approach
- Assess the general benefits of an activity-based approach
- Apply to budgeting and performance evaluation

Marking Guide	**Marks**
Activity-based approach	2
General benefits of activity-based approach	2
Application to budgeting and performance evaluation	4

Examiner's Comments

Most candidates demonstrated that they had a reasonable idea of the activity-based approach (demonstrated in part (c)) and of some general benefits but were less able to apply this to budgeting and performance evaluation

Common Errors

- Providing little reference to budgeting and performance evaluation
- Demonstrating lack of clarity about the activity-based costing process

Question 4(a)

Prepare a cash budget for each of the first three months and in total.

(15 marks)

Rationale

Part (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 value of sales for each month and adjust to reflect the timing of receipts from customers
- Calculate the production units and apply to each of the costs
- Complete the cash budget

Marking Guide	**Marks**
Budget format (total receipts & payments, net cash flow, balances)	2
Capital injection	1
Sales receipts	3
Production units	3
Materials costs and phasing	2
Other costs	4

Examiner's Comments

Part (a) of this optional question was answered well by most candidates who chose it

Common Errors

- Including bad debts as a cash flow
- Making errors on the sales discount
- Making no attempt to calculate production units, instead basing all costs on sales volumes
- Making errors in calculating inventory movements in the determination of production volumes
- Incorrect phasing of materials costs
- Including depreciation in fixed overheads

Question 4(b)

There is some uncertainty about the direct material cost. It is thought that the direct material cost per component could range between £1·50 and £2·20. Calculate the budgeted total net cash flow for the three month period if the cost of the direct material is:

(i) £1.50 per component; or
(ii) £2.20 per component.

(6 marks)

Rationale

Part (b) covers learning outcome C(vii) - *Calculate the consequences of "what if" scenarios and evaluate their impact on master profit and loss account and balance sheet.*

Suggested Approach

- Calculate the change in materials cost for each month at each of the revised prices
- Adjust for phasing of materials payments
- Calculate the revised net cash flow for the three month period

Marking Guide	**Marks**
Additional costs at £2.20	2
Cost savings at £1.50	2
Impact on cash budget	2

Examiner's Comments

This part was also generally answered well.

Common Errors

- Using inconsistent phasing compared with part (a)
- Failing to calculate the cumulative effect when monthly adjustments were made to balances

Question 4(c)

Using your answers to part *(a)* and *(b)* above, prepare a report to the management of RF Ltd that discusses the benefits or otherwise of performing 'what if' analysis when preparing cash budgets.

(9 marks)

Rationale

Part (c) covers learning outcome C(vii)- *Calculate the consequences of "what if" scenarios and evaluate their impact on master profit and loss account and balance sheet.*

Suggested Approach

- Describe 'what if' analysis
- Relate 'what if' analysis to cash budgets and to the particular figures in this question

Marking Guide	**Marks**
'What if' analysis	2
Usefulness in cash budgeting	4
Figures/analysis from the answers to parts (a) & (b)	3

Examiner's Comments

Few candidates made a reasonable attempt at this part of the question. For example, it was quite common to suggest that the company should choose to buy at £1.50. Where candidates had some idea about 'what if' analysis very few related it to cash budgeting or to the situation in the question.

Common Errors

- Failing to read the question carefully
- Demonstrating inability to apply the discussion to the specific question/scenario