Accounting Technicians Ireland

Management Accounting

2nd Year Examination

May 2014

Exam Paper, Solutions & Examiner's Comments

NOTES TO USERS ABOUT THESE SOLUTIONS

The solutions in this document are published by Accounting Technicians Ireland. They are intended to provide guidance to students and their teachers regarding possible answers to questions in our examinations.

Although they are published by us, we do not necessarily endorse these solutions or agree with the views expressed by their authors.

There are often many possible approaches to the solution of questions in professional examinations. It should not be assumed that the approach adopted in these solutions is the ideal or the one preferred by us. Alternative answers will be marked on their own merits.

This publication is intended to serve as an educational aid. For this reason, the published solutions will often be significantly longer than would be expected of a candidate in an examination. This will be particularly the case where discursive answers are involved.

Accounting Technicians Ireland

2nd Year Examination: Summer 2014

Paper : MANAGEMENT ACCOUNTING

Monday 19th May 2014 – 2.30 p.m. to 5.30 p.m.

INSTRUCTIONS TO CANDIDATES

PLEASE READ CAREFULLY

In this examination paper the €/£ symbol may be understood and used by candidates in Northern Ireland to indicate the UK pound sterling and the €/£ symbol may be understood by candidates in the Republic of Ireland to indicate the Euro.

Answer ALL THREE questions in SECTION A and ANY TWO out of THREE questions in SECTION B.

If more than the required number of questions is answered, then only the requisite number, in the order filed, will be corrected.

Candidates should allocate their time carefully.

All figures should be labelled, as appropriate, e.g. €/£'s, units etc.

Answers should be illustrated with examples, where appropriate.

Question 1 begins on Page 2 overleaf.

Note:
Examinees are permitted to use terminology of either International Accounting Standards (I.A.S's) or Financial Reporting Standards (F.R.S's) where appropriate (e.g. Receivables/Debtors) when preparing management accounting statements.

SECTION A
ANSWER ALL THREE QUESTIONS

QUESTION 1 *(Compulsory)*

The following information relates to a traditional style wooden bench produced by **Retro Ltd.** during December:

Variances	**€/£**
Materials Price	25,000 Adverse
Materials Usage	16,500 Favourable
Labour Rate	40,000 Favourable
Labour Efficiency	22,000 Adverse

Actual data	
Materials costs	€/£ 850,000 for 100,000 Kg
Labour costs	€/£ 600,000 for 80,000 hours
Production Volume	30,000 units

Actual and standard production volume is the same.

Required:

(a) Prepare a standard cost sheet for the traditional bench.

14 Marks

(b) Outline one possible reason for each of the labour and material variances.

6 Marks

Total: 20 Marks

QUESTION 2 *(Compulsory)*

The following information relates to the only product manufactured and sold by **Wood plc**.

	€/£ per unit
Selling price	180
Direct material cost	55
Direct labour cost	45
Variable production overhead	10
Variable sales & marketing overhead	8

The following levels of activity took place over the first three months of the product's life:

	Sales Units	**Production Units**
January	5,800	7,000
February	6,500	8,000
March	7,800	8,500

Additional information is as follows:

1. Budgeted fixed production overhead was €/£500,000 per annum.

2. Actual fixed production overhead for the period was €/£45,000 per month.

3. Sales and marketing overhead of €/£35,000 per month and administration overhead of €/£20,150 per month were in line with the budget for that period.

4. All fixed overhead costs are budgeted on the basis of a projected volume of 80,000 units per year and all costs are expected to be incurred at a constant rate throughout the year.

5. The business does not expect to have any inventory at 1 January.

Required:

(a) On the assumption that Wood plc. operates an absorption costing system, calculate the (under)/over absorbed fixed production overhead for each month.

3 Marks

(b) Prepare a profit statement for each month using each of the following bases:

i. Absorption costing
ii. Marginal costing

14 Marks

(c) Explain the reason for any difference in the reported profit under the two bases for each month.

3 Marks

Total 20 Marks

QUESTION 3 *(Compulsory)*

(a) '*Over time or over a specific range of activity, some costs tend to be unaffected by the level of outp whereas others will change as output changes'.*

Required:

Briefly explain, with the aid of a relevant example, each of the following three cost classifications:

i. Variable cost;
ii. Fixed cost;
iii. Mixed cost (Semi variable / semi fixed cost).

6 Marks

(b) The following information has been supplied for **Croom Ltd**. a manufacturing company based in Limerick;

Activity	**Units**	**Units**
Production	100,000	120,000
Sales	50,000	85,000

Costs	**€/£**	**€/£**
Direct Material	350,000	420,000
Administration	88,000	88,000
Factory Overhead	590,000	650,000
Production Labour	380,000	430,000
Selling and Distribution	200,000	340,000

Required:

i. Prepare a table summarising the variable cost per unit and total fixed cost for <u>each</u> of the five cost headings above.

10 Marks

ii. Using your answer to part (i) calculate the total estimated cost for an activity level of production of 110,000 units and sales of 105,000 units

4 Marks

Total: <u>20</u> Marks

SECTION B
ANSWER TWO OUT OF THE FOLLOWING THREE QUESTIONS

QUESTION 4

You have been asked by your manager to assist with the induction of a new member of the finance team. After a number of days, the new person approached you with a number of queries about the following terms which they have heard being used, but which they don't understand:

1. Integrated cost accounting system
2. Limiting factors
3. Flexible budgets
4. Cost codes
5. Sensitivity analysis
6. Sunk costs

Conscious of the importance placed upon clear guidance by your manager, and in order to provide documentation for future reference, you decide that the best approach is for you to provide a written explanation of each term.

Required:

Prepare brief notes which explain each of the above terms. The notes should include practical examples to fully explain each term.

Total: 20 Marks

QUESTION 5

The following information relates to the inventory of raw material C and work-in-progress of the o product manufactured by **Rice plc**.

Raw Material C

01 August	Received	1,000 kg @ €/£9.50 per kg
15 August	Received	900 kg @ €/£11.00 per kg
19 August	Issued to production	800 kg
20 August	Received	600 kg @ €/£ 10.50 per kg
26 August	Issued to production	1,200 kg

Work-in-Progress at 31 August

600 units which are 40% complete
400 units which are 60% complete
300 units which are 80% complete

There is no opening stock of raw material C or work-in-progress at 1 August.
Completed finished goods are valued at €/£30.50 per unit.

Required:

(a) Prepare a statement showing the amount charged to production and the total value of the inventory of raw materials held after each inventory transaction (rounding to two decimal places), using each of the following methods of inventory costing:

i. First In, First Out (FIFO)
ii. Last In, First Out (LIFO)
iii. Weighted Average (AVG)

12 Marks

(b) Outline the advantages and disadvantages of each of the above three methods of inventory costing and suggest the circumstances in which each of them would be suitable.

6 Marks

(c) Calculate the value of the company's inventory of work-in-progress at 31 August.

2 Marks

Total 20 Marks

QUESTION 6

The following information relates to **Wheat plc**. a manufacturing business that is considering the introduction of a piece-work incentive scheme in one of its departments, which has 6 employees.

Current Payroll

Basic working week	38 hours
Over-time premium	20% of normal pay grade.
Normal grade A pay rate is	€/£22 per hour.
Normal grade B pay rate is	€/£18 per hour.

Employee	Normal Hours Worked	Normal Pay Grade	Normal Units Produced
1	41	A	170
2	44	A	170
3	40	B	150
4	38	B	150
5	38	B	160
6	45	A	180

Piecework Incentive Scheme Proposal

Under the proposed incentive scheme, the standard time allowance would be 20 minutes per unit. The piecework rate would be based on grade A labour rates, with a standard piecework enhancement of 6%. All employees would receive the same piecework rate.

Required:

(a) Outline the purpose of an incentive scheme.

5 Marks

(b) Calculate the normal pay due to each employee based on the current payroll terms.

5 Marks

(c) Calculate the standard piecework rate on the basis of the proposed incentive scheme.

5 Marks

(d) Calculate the normal pay due to each employee under the terms of the proposed incentive scheme.

5 Marks

Total 20 Marks

2nd Year Examination: May 2014

Management Accounting

Suggested Solutions and Examiner's Comments

Students please note: These are suggested solutions only; alternative answers may also be deemed to be correct and will be marked on their own merits.

Statistical Analysis – By Question						
Question No.	1	2	3	4	5	6
Average Mark (%)	53%	51%	71%	59%	74%	62%
Nos. Attempting	749	762	763	160	730	634

Statistical Analysis - Overall	
Pass Rate	76%
Average Mark	61
Range of Marks	**Nos. of Students**
0-39	98
40-49	92
50-59	165
60-69	144
70 and over	269
Total No. Sitting Exam	**768**
Total Absent	128
Total Approved Absent	39
Total No. Applied for Exam	935

General Comments:

In section B, where students had a choice, question 4 proved unpopular with candidates. The majority of candidates attempted questions 5 and 6 from this section.

As mentioned in the Examiner's report for the May 2013 paper, it is important that candidates understand the costing concepts involved within the areas of the syllabus rather than 'rote learning' their content. This rote learning was less evident in this paper and most candidates had the ability to explain certain terms and to apply those terms to practical scenarios.

The majority of the scripts were very well presented scripts but there is still scope for improvement in some cases. In particular, students should:

i. Write as neatly and clearly as possible.
ii. Label questions clearly.
iii. Show workings. Candidates presented a final figure rather than showing the workings that lead to this figure. If this final figure is not correct then valuable marks will be lost.

Examiner Comments on Question One

It is also important to read the requirements of the question carefully. Some valuable marks were lost in questio as a result of candidates not reading the requirements. In addition to this, in some cases an example was not provided as requested to support the explanation of certain terms.

This question tested the candidate's knowledge of standard costing and variance analysis.
Part (a) of the question required candidates to prepare a standard cost sheet for a traditional bench from the variances and actual data provided.

Candidates should note that two additional sample variance questions were provided as a study resource this year. However the standard of answers was mixed. Many candidates scored full marks, whilst others seemed to have difficulty with the calculation of the standard materials used and standard labour hours worked. Those candidates had little difficulty with the calculation of standard material price or standard labour cost.

Many candidates got the standard cost calculations correct but failed to produce the standard cost sheet, losing two marks as a result.

Part (b) of the question was exceptionally well answered by the majority of candidates, including those who did not answer part (a) well.

Solution One

(a) Standard cost card

		Per Unit € / £	
Materials cost	3.4kg @ € / £ 8.25 per kg	28.05	**6**
Labour cost	2.575 hours @ € / £ 8.00 per hour	20.60	**6**
Total		48.65	**2**

(b) Explanation of Variances

Material Variances
The business may have sourced more expensive, better-quality materials for production. Accordingly, these cost more, resulting in the adverse price variance of € / £ 25,000. However, there has been less usage (perhaps less wastage or less faults) with a favourable usage variance of € / £ 16,500.

3 Marks

Labour Variances
The adverse labour efficiency variance of € / £ 22,000 could be attributable to less-skilled or less-experienced staff that have proved to be cheaper to employ, hence the favourable labour rate variance, but have taken longer to do the job.

There are two possible methods that can be used in order to answer this question. Both approaches will gain the same marks.

METHOD 1:

Materials € / £ 850,000 for 100,000 Kg = € / £ 8.50 per kg
Labour € / £ 600,000 for 80,000 hours = € / £ 7.50 per hour

Materials Price Variance
(Actual Price – Standard Price) x Actual Quantity
(8.50 per kg – X) x 100,000 kg = € / £ 25,000 Adverse
x = € / £ 8.25 per kg

Materials Usage Variance
(Actual Quantity – Standard Quantity) x Standard Price
(100,000 kg - X) x € / £ 8.25 = € / £ 16,500 Favourable
x = 102,000 kg
102,000 kg / 30,000 units = 3.4 kg per unit

Labour Rate Variance
(Actual Pay Rate – Standard Pay Rate) x Actual Labour Hours
(€ / £ 7.50 per hour – X) x 80,000 hours = € / £ 40,000 Favourable
x = € / £ 8 per hour

Labour Efficiency Variance
(Actual Labour Hours – Standard Labour Hours) x Standard Pay Rate
(80,000 hours – X) x € / £ 8.00 per hour = € / £ 22,000 Adverse
x = 77,250 hours
77,250 hours / 30,000 units = 2.575 hours per unit

METHOD 2:

Cost per kg of material

Material price variance

	€ / £	
100,000 kg should have cost (100,000 x C)	100,000C	
100,000 kg did cost	850,000	
Variance	**25,000A**	

	€ / £	
100,000kg should have cost	825,000	(Bal. Fig.)
100,000kg did cost	850,000	
Variance	**25,000A**	

Therefore 100,000 x Cost = € / £ 825,000
C = € / £ 825,000/100,000 = € / £ 8.25 per kg.

Kg material per unit of product

Material usage variance

	Kg
30,000 units should have used (30,000 x Kg)	30,000Kg
30,000 units did use	100,000
x standard cost per kg €8.25	
Variance	**€ / £ 16,500**

	Kg
30,000 units should have used (30,000 x Kg)	30,000Kg
30,000 units did use	100,000
	2,000
x standard cost per kg € / £ 8.25 (€ /£ 16,500/€ / £ 8.25)	
Variance	**€ / £ 16,500**

Therefore 30,000 x Kg = 102,000
Kg = 102,000/30,000 = **3.4Kg per unit**

Cost per labour hour

Labour rate variance

	€ /£
80,000 hours should have cost (80,000 x C)	80,000C
80,000 hours did cost	600,000
Variance	**40,000F**

	€ / £
80,000 hours should have cost (80,000 x C)	640,000 (Bal. fig.)
80,000 hours did cost	600,000
Variance	**40,000F**

Therefore 80,000 x Cost = € / £ 640,000
C = € / £ 640,000/80,000 = € / £ 8.00 per hour

Labour hours per unit of product

Labour efficiency variance

	Hrs
30,000 units should have used (30,000 x Hrs)	30,000Hrs
30,000 units did use	80,000
x standard cost per kg € / £ 8.00	
Variance	**€ / £ 22,000A**

	Hrs
30,000 units should have used (30,000 x Hrs)	77,250(Bal.Fig.)
30,000 units did use	80,000
x standard cost per kg € / £ 8.00 (€ / £ 22,000/€ / £ 8.00)	2,750A
Variance	**€ / £ 22,000A**

Therefore 30,000 x Hrs = 77,250
Hrs = 77,250/30,000 = 2.575 hrs per unit

Examiner Comments on Question Two

This question tested the candidate's knowledge of absorption and marginal costing.

Many candidates were unable to (and showed no knowledge of) how to calculate an overhead absorption rate in p a) of the question. Others that did calculate this rate used it incorrectly. This is clearly an area that needs more focus, as similar issues arose in May 2013.

The standard of answers for part (b) was similarly mixed. Whilst this part of the question was generally well answered, many students lost valuable marks because they did not disclose the opening and closing inventories in both statements. In some cases it was obvious that candidates were unable to calculate production cost per unit under both bases. Many solutions included sales costs as part of production costs.

It was notable that several candidates who calculated the under/over absorption of fixed overheads correctly as required in part (a) failed to include it in the absorption costing statement in part (b).

Part (c) was generally well answered, with most candidates able to explain the reason for any difference in reported profit as a result of using the two different bases of costing.

Solution Two

(a) Under / Over-absorbed Fixed Production Overhead

	January	**February**	**March**	**Marks Allocated**
Production units	7,000	8,000	8,500	
	£/€	**£/€**	**£/€**	
Fixed Production OAR per unit (working 1)	6.25	6.25	6.25	
Absorbed Fixed Production Overhead	43,750	50,000	53,125	
Actual Fixed Production Overhead	45,000	45,000	45,000	
Fixed Production Overhead Under/ Over absorbed	1,250 Under absorbed	5,000 Over absorbed	8,125 Over-absorbed	**3**

(b) i. Profit Statement using Absorption Costing

	January **£/€**	**February** **£/€**	**March** **£/€**	
Sales Revenue	1,044,000	1,170,000	1,404,000	**0.5**
Production costs				
Opening Inventory	0	139,500	313,875	**1**
Direct Materials	385,000	440,000	467,500	**0.5**
Direct Labour	315,000	360,000	382,500	**0.5**
Variable Production Overhead	70,000	80,000	85,000	**0.5**
Fixed Production Overhead	43,750	50,000	53,125	**1**
Closing Inventory (working 3)	(139,500)	(313,875)	(395,250)	**1**
	674,250	755,625	906,750	
Gross profit	**369,750**	**414,375**	**497,250**	

Solution Two *(Cont'd)*

Non production Costs				
Variable Sales & Marketing Overhead	46,400	52,000	62,400	
Fixed Sales & Marketing Overhead	35,000	35,000	35,000	**0.**
Fixed Administration Overhead	20,150	20,150	20,150	**0.5**
Under-absorbed / Over-absorbed fixed production overhead	1,250	(5,000)	(8,125)	**0.5**
	102,800	102,150	109,425	
Net Profit	**266,950**	**312,225**	**387,825**	

(b) ii. Profit Statement using Marginal Costing

	January £/€	**February** £/€	**March** £/€	
Sales Revenue	1,044,000	1,170,000	1,404,000	**0.5**
Production costs				
Opening Inventory	0	132,000	297,000	**1**
Direct Materials	385,000	440,000	467,500	**0.5**
Direct Labour	315,000	360,000	382,500	**0.5**
Variable Production Overhead	70,000	80,000	85,000	**0.5**
Closing Inventory (working 3)	(132,000)	(297,000)	(374,000)	**1**
	638,000	715,000	858,000	
Variable Sales & Marketing Overhead	46,400	52,000	62,400	**0.5**
	684,400	767,000	920,400	
Contribution	**359,600**	**403,000**	**483,600**	**0.5**
Fixed overheads				
Fixed production overheads	45,000	45,000	45,000	**1**
Fixed Sales & Marketing Overhead	35,000	35,000	35,000	**0.5**
Fixed Administration Overhead	20,150	20,150	20,150	**0.5**
	100,150	100,150	100,150	
Net Profit	**259,450**	**302,850**	**383,450**	

(c) Difference between reported profits under the two bases used above

	January £/€	**February** £/€	**March** £/€	
Absorption Costing Profit	266,950	312,225	387,825	
Marginal Costing Profit	259,450	302,850	383,450	
Difference	7,500	9,375	4,375	**3**

Analysis of the difference

	January £/€	**February** £/€	**March** £/€
Opening Inventory	nil	1,200	2,700
Closing Inventory	1,200	2,700	3,400
Difference	1,200	1,500	700
Difference x €/£ 6.25	7,500	9,375	4,375

Solution Two *(Cont'd)*

The absorption costing figures are driven by production volume and include fixed production overhead as part of the cost of production. This fixed production overhead is included at the pre-determined overhead absorption rate of €/£ 6.25 per unit. Therefore this fixed overhead rate is included in the in the opening and closing inventory valuation. This results in a higher net profit each month when using absorption costing because production volume exceeds sales volume each month.

The marginal costing figures exclude the fixed production overhead element in its inventory valuations and hence net profits each month are lower. Under this method profit is recognised only when sales are recorded.

Workings

Working 1:

Fixed production overhead absorption rate per unit

Budgeted fixed production overheads	£/€500,000
Budgeted production	80,000 units

Fixed production overhead absorption rate per unit = £/€500,000/80,000 = £/€6.25 per unit.

Working 2:

Production cost per unit	**£/€**	
Direct Materials cost	55.00	
Direct Labour cost	45.00	
Variable Production Overhead	10.00	
Unit value for Marginal Costing	**110.00**	(variable cost per unit)
Fixed Production Overhead	6.25	
Unit value for Absorption Costing	**116.25**	(variable and fixed cost per unit)

Working 3:

Inventory valuation

	January	**February**	**March**	**Marks Allocated**
	units	**units**	**units**	
Opening Inventory	0	1,200	2,700	
Production	7,000	8,000	8,500	
Sales	(5,800)	(6,500)	(7,800)	
Closing Inventory	1,200	2,700	3,400	
	£/€	**£/€**	**£/€**	
Marginal Costing Valuation (@ £/€110 per unit)	132,000	297,000	374,000	
Absorption Costing Valuation (@ £/€116.25 per unit)	139,500	313,875	395,250	

Examiner Comments on Question Three

This question tested the candidate's knowledge of variable, fixed and mixed costs.

In Part (a), the standard of answers was very high and most candidates scored well. Some lost out on marks by n providing an example as asked. Again, candidates are reminded to read the question carefully so as to avoid this type of omission.

Part (b) (i) was also excellent and reflected a huge improvement from the May 2013 paper. Candidates demonstrated a comprehensive understanding of the costing terms and were able to apply them to a practical example.

Some candidates were unable to separate the mixed costs using the high low method but those candidates were in the minority.

Part (b) (ii) was also answered very well by the majority of the candidates.
In a minority of cases this part of the question was not attempted or was badly answered. This was generally the case for candidates that were unable to attempt part (i).
Candidates should note that marks were awarded if the principle was correct even if the amounts used were incorrect, and it is always best to attempt all parts of a question.

Solution Three

Marks Allocated

(a)

(i) **Variable cost** is a cost that varies as the level of activity changes. An example of a variable cost is the cost of materials. As production is increased the materials requirement will increase and therefore the cost of materials will increase. **2**

(ii) **Fixed cost** is a cost that remains the same irrespective of the level of activity. The cost of renting a building is classified as a fixed cost. The rent would be paid periodically and would not vary with the level of activity. **2**

(iii) **Mixed cost** is a cost that is partly fixed and partly variable. An example of a mixed cost is the remuneration package of a sales representative. The basic salary of the sales representative is the fixed element and any sales commission paid is the variable element. The commission payable would depend on the volume of sales achieved, hence, the variable element. **2**

(b) (i)

	Variable cost per unit	**Fixed cost**	**Working**	
	€ /£	**€ /£**		
Direct Material	3.5	0	1	**2**
Administration	0	88,000	2	**2**
Factory Overhead	3	290,000	3	**2**
Production Labour	2.5	130,000	4	**2**
Selling & Distribution	4	0	5	**2**
	13	508,000		

(b) (ii)		**£**	**ks d**
Direct Material	110,000 x £ / €3.50	385,000	
Administration		88,000	
Factory Overhead	(110,000 x £ / €3) + £/€290,000	620,000	
Production Labour	(110,000 x £ / €2.50) + £/€130,000	405,000	
Selling & Distribution	105,000 x £ / €4.00	420,000	
		1,918,000	**4**

Workings

	Activity Volume	**Total cost**	**Variable CPU**	**Fixed cost**	**Marks Allocated**
Direct material (W1)	**Units**	**€ /£**	**€ /£**	**€ /£**	
Production	100,000	350,000	3.5		
Production	120,000	420,000	3.5		
Increase in units and cost	20,000	70,000	3.5	nil	
Administration (W2)					
Production	100,000	88,000			
Production	120,000	88,000			
Increase in units and cost	20,000	nil	nil	88,000	
Factory overhead (W3)					
Production	100,000	590,000			
Production	120,000	650,000			
Increase in units and cost	20,000	60,000	3	290,000	
Production labour (W4)					
Production	100,000	380,000			
Production	120,000	430,000			
Increase in units and cost	20,000	50,000	2.5	130,000	
Selling and Distribution (W5)					
Sales units	50,000	200,000			
Sales units	85,000	340,000			
Increase in units and cost	35,000	140,000	4	nil	

Workings: Using the High-low method

1. VC £ / €350,000 / 100,000 = £ / €3.50 per unit; £ / €420,000 / 120,000 = £ / €3.50 per unit;
2. All fixed because there is no increase in costs as volume of output increases.
3. 100,000 x £ / €3= £ / €300,000 variable. Total is £ / €460,000. Fixed is £ / €290,000 *or* 120,000 x £ / €3 = £ / €360,000 variable. Total is £ / €650,000. Fixed is £ / €290,000.
4. 100,000 x £ / €2.50 = £ / €250,000 variable. Total is £ / €380,000. Fixed is £ / €130,000 *or* 120,000 x £ / €2.50 = £ / €300,000 variable. Total is £ / €430,000. Fixed is £ / €130,000.
5. VC £ / €200,000 / 50,000 =£ / €4.00 per unit; £ / €340,000 / 85,000 =£ / €4.00 per unit;

Examiner Comments on Question Four

This question tested the candidate's knowledge of six costing terms.

This was the least popular question on the paper with most candidates opting for questions 5 and 6. For candidates that did opt for this question it was generally well answered with candidates demonstrating a reasonable knowledge of the costing terms examined.

Marks Allocated

4 for each part.

Chose best 5 answers

Solution Four

1. Integrated cost accounting system

An integrated cost accounting system is one where the cost accounts and financial accounts are kept in the same set of accounting records. This system avoids the need for separate accounting records for financial accounting and costing purposes but is still able to meet the information requirement for costing plus financial accounts. There are a number of requirements for the successful operation of an Integrated Cost Accounting System, including:

- Top-management decision on the extent of integration of the two sets of accounting records re: to integrate until the stage of primary cost or factory cost or full integration.
- A suitable coding system must be developed to serve the purposes of both financial accounting and cost accounting
- An agreed routine, with regard to the treatment of provision for accruals, prepaid expenses, other adjustments necessary for the preparation of interim accounts
- Proper coordination should exist between the staff responsible for the financial and cost aspect of the accounts

In an integrated cost accounting system, the financial and cost transactions are recorded in an integrated ledger which is self-balancing. Advantages of this include:

- Savings in clerical work and costs because only one set of accounts is kept;
- No need to reconcile financial and cost profits;
- No confusion arises from different inventory valuations, method of depreciation and profits
- The probability of error is less because recording takes place in one set of accounts and
- Information produced in an integrated system is quicker, thus helping management in decision-making

2. Limiting factors

A limiting factor prevents a company from expanding to infinity. Limiting factors affect budgeting and they must be considered to ensure that the budgets can be attained. Examples are: raw material shortage, labour shortage, insufficient production capacity, low demand for products, lack of capital, etc.

Marks llocated

Solution Four *(Cont'd)*

The principal budget factor is the factor that limits the activities of an organization because such a limit / constraint will have a pervasive effect on all plans and budgets. The limiting factor must be identified during the budget preparation process.

Examples of principal budget factors include:

- Shortage of labour / materials
- Shortage of production capacity.
- Shortage of finance
- Shortage of demand for goods or services.

3. Flexible budgets

A flexible budget is a budget which is designed to change in accordance with the level of activity attained.

It is also known as Variable budget as the budget recognises the difference in cost behaviour - namely fixed costs and variable costs - in relation to fluctuations in activity. The budget is designed to change in accordance with such fluctuations.

For a fixed budget, the budget remains the same irrespective of the level of activity actually achieved.

The fixed budget is prepared based on only one level of activity.

Therefore, if the level of output actually achieved differs considerably from that budgeted, large variances will arise.

Differences between Fixed Budgets and Flexible Budgets include:

- For a fixed budget, the figures are for a SINGLE level of activity while a flexible budget is prepared for DIFFERENT levels of activity;
- Under fixed budgets, managers are held responsible for variances not under their control (both fixed and variable cost);
- The fixed budget is never able to properly assess the efficiency and actual performance of managers.

For example, a fixed budget is set with a planned 8,000 hours but an actual 10,000 hours are recorded, from both the motivational and control point, it is difficult to gauge the efficiency of the managers who are involved in the manufacture of the output at that actual level;

The flexible budget allows more meaningful comparison as it 'flexes' to the actual activity level. It calculates what costs should have been for the actual level of activity and

- The flexible budget has the advantage of assisting the managers deal with uncertainty by allowing them to see the expected outcomes for a range of activity;

4. Cost codes

Job Cost Management modules enable you to effectively manage jobs from revenue and cost perspectives. To do this effectively, we allow for a work breakdown, which we refer to as a cost code. User-defined cost codes can be established by type of job.

Cost Analysis by cost-code links each class of expense with budget. These reports may be selected by job range, open or complete jobs, department, or division.

Marks
ated

Solution Four *(Cont'd)*
Features:

- Cost codes are user defined. They may be customized to your needs and preferences. You may set up a different code structure for each job.
- Balancing your jobs to the General Ledger is easy because nothing is recorded as a job cost without also being recorded in the General Ledger.
- Reporting of labour burden cost allows you to have a more-accurate job cost by allowing you to see not only what you pay an employee, but also what he / she is costing you in 'invisible' cost.

5. Sensitivity analysis

Sensitivity analysis is implemented to analyze the various risks to a project by looking at all aspects of the project and their potential impact on the overall goal. Knowing the level of impact various elements have on a project can assist management with setting priorities to achieve the end result more quickly.

Sensitivity analysis facilitates comparisons between various elements to quickly discern which risks are worth taking. Project management can use sensitivity analysis to create priorities in dealing with elemental risks to a project. By knowing which risks affect the objective the most, more efforts can be concentrated to lessen that risk. Lowering risk potential allows for projects to flow in a smoother fashion with fewer unexpected delays.

6. Sunk Costs

Sunk cost is a past cost not directly relevant in decision making.

- If we refer to relevant costs, the main feature is that we are referring to future costs.
- As a sunk cost is a cost which has already been incurred, it should be ignored when making decisions.
- By analysing these types of sunk costs, management will be wasting their time and effort as these costs do not affect the decision they are going to make.

In short-term decision making, fixed costs are generally regarded as sunk costs

Example

Say Company A has a factory which produces product A. Earlier last year it extended and renovated the factory at an additional cost of € / £ 175,000 to produce product B. Now management is thinking of whether to let outsiders produce product B or not. Should this € / £ 175,000 be considered in that decision? € / £ 175,000 is a sunk cost which was caused by a previous decision.

Examiner Comments on Question Five

This question tested the candidate's knowledge of inventory management.

Part (a) was very well answered with many candidates gaining almost full marks.
However the majority of candidates calculated the value of the inventory but not the amount charged to production. Although few marks were lost, this again highlights the fact that candidates should read the question carefully.

Part (b) of the question required candidates to outline the advantages and disadvantages of the three methods of costing for inventories **and** the circumstances in which each of them would be suitable.
The answers to part (b) were comprehensive for that part that was answered. Most students did not outline the circumstances in which each of them would be used. As a result valuable marks were lost here.

Part (c) of the question required candidates calculate the company's inventory of work-in-progress at the end of the year. The majority of candidates gained full marks for this part.

Solution Five

(a) i. First In, First Out (FIFO) Method

FIFO Method	**Received**			**Issued (charged to production)**			**Balance**			**Marks Allocated**
Date	Qty. kg	Value per kg €/£	Total value €/£	Qty. kg	Value per kg €/£	Total value € / £	Qty. kg	Value per kg €/£	Total value €/£	
01-Aug	1,000	9.5	9,500				1,000	9.5	9,500	
15-Aug	900	11	9,900				1,900		19,400	
19-Aug				800	9.5	7,600	1,100		11,800	**3 for valuation of Inventory**
20-Aug	600	10.5	6,300				1,700		18,100	
26-Aug				200 900	9.5 11	1,900 9,900				**1 for the amount issued to production**
				100	10.5	1,050				
						12,850				
						20,450	**500**	**10.5**	**5,250**	

(b) i. First ii. Last In First Out (FIFO) Method

Solution Five *(Cont'd)*

LIFO Method	**Received**			**Issued (charged to production)**			**Balance**			**Marks Allocated**
Date	Qty. kg	Value per kg €/£	Total value €/£	Qty. kg	Value per kg €/£	Total value € / £	Qty. kg	Value per kg €/£	Total value €/£	
01-Aug	1,000	9.5	9,500				1,000	9.5	9,500	
15-Aug	900	11	9,900				1,900		19,400	
19-Aug				800	11	8,800	1,100		10,600	**3 for valuation of Inventory**
20-Aug	600	10.5	6,300				1,700		16,900	
26-Aug				600 100 500	10.5 11 9.5	6,300 1,100 4,750 12,150				**1 for the amount issued to production**
						20,950	**500**	**9.5**	**4,750**	

Solution Five *(Cont'd)*

iii. Weighed Average (AVG) Method

AVG Method	**Received**			**Issued (charged to production)**			**Balance**			**Marks Allocated**
Date	Qty.	Value	Total	Qty.	Value	Total Value	Qty.	Value	Total	
	kg	per kg €/£	Value €/£		per kg €/£	€/£	kg	per kg €/£	Value €/£	
01-Aug	1,000	9.5	9,500				1,000	9.5	9,500	**3 for valuation of Inventory**
15-Aug	900	11	9,900				1,900	10.21	19,400	
19-Aug				800	10.21	8,168	1,100	10.21	11,232	
20-Aug	600	10.5	6,300				1,700	10.31	17,532	**1 for the amount issued to production**
26-Aug				1,200	10.31	12,372				
						20,540	**500**	**10.31**	**5,160**	

Solution Five *(Cont'd)*

(b) Advantages and Disadvantages of the three methods

Method	Advantages	Disadvantages	Most suitable use(s)	Marks Allocated
First in First Out (FIFO)	1. Actual costs system – unrealised profit/ loss eliminated 2. Encourages good store-keeping practices (issuing oldest inventory first) 3. Inventory valuation comprises of the most recent valuation	1. Not suitable in times of inflation – product costs under-stated & profits over-stated 2. Can be administratively clumsy 3. Cost comparison of batches difficult 4. Limited decision-making uses	1. Acceptable for financial accounting 2. Accepted by tax authorities for taxation purposes	**2**
Last In First Out (LIFO)	1. Actual cost system 2. Up-to-date relevant market costs charged to production 3. Realistic costing approach useful in some decision-making scenarios	1. Inventory is valued at oldest prices – may distort profits 2. Not acceptable to tax authorities 3. Can be administratively clumsy as purchase batches only partially charged to production	1. Used in management accounting / cost accounting, particularly in an inflationary environment	**2**
Weighted Average	1. Relatively straight-forward administratively 2. Moderates effects of price changes on inventory valuation and production charges 3. Useful for cost-comparison exercises	1. Although realistic, not based on actual meaningful costs	1. Acceptable under financial accounting regulations and to tax authorities 2. Most suitable in a fluctuating price environment	**2**

Solution Five *(Cont'd)*

(c) Work in progress at 31 August

Calculation of equivalent units

	EU
600 units @ 40%	240
400 units @ 60%	240
300 units @ 80%	240
	720 units @ £ / € / £ 30.50 per unit = **€ / £ 21,960**

2

Examiner Comments on Question Six

This question tested the candidate's knowledge of employee incentive schemes.

Part (a) required an understanding of the purpose of an incentive scheme. This part was well answered with students demonstrating an in-depth knowledge of those types of schemes.

Part (b) was again very well answered and required the calculation of normal pay due to employees without an incentive scheme.

Part (c) required the calculation of a standard piecework rate and this was required to be used in part (d) to calculate the pay due to employees under a proposed incentive scheme.
The answers to part (c) were very mixed. Many candidates over-complicated the question and brought a lot of unnecessary calculations into it.

Part (d) was generally well answered despite the difficulty with part (c). Marks were awarded for the approach taken in part (d) rather than for using the correct figure from part (c).

Solution Six

(a) Incentive schemes are a means of remuneration which relate payment to output. The aims of such schemes are to benefit employees by providing an opportunity to increase earnings, while encouraging performance and providing for increased productivity, which may result in reduced cost per unit. Incentive Schemes can be based upon individual performance or aimed at incentivising groups of employees. Incentive schemes should be based on efficient working methods following comprehensive work studies and may be financial or non-financial in nature.

5

Solution Six *(Cont'd)*

(b) Normal pay on current payroll terms

Employee	Calculation	€ / £	Mark Allocated
Employee 1	38 hours @ € / £ 22	836	
	3 hours @ (€ / £ 26.40)	79.2	
		915.2	
Employee 2	38 hours @ € / £ 22	836	
	6 hours @ (€ / £ 26.40	158.4	
		994.4	
Employee 3	38 hours @ € / £ 18	684	
	2 hour @ (€ / £ 21.60)	43.2	
		727.2	
Employee 4	38 hours @ € / £ 18	684	
		684	
Employee 5	38 hours @ € / £ 18	684	
		684	
Employee 6	38 hours @ € / £ 22	836	
	7 hours @ (€ / £ 26.40)	184.8	**5**
		1,020.80	

(c) Standard Incentive piecework rate

Standard Weekly Pay (Grade A)	€ / £ 836	
Standard Weekly Production		
38 hours = 2,280 mins / 20mins	114 units	
Basic Piecework Rate	€ / £ 7.33 per unit	
Incentive Element 6%	0.44	
Standard Incentive Piecework Rate	€ / £ 7.77	
		5

Solution Six *(Cont'd)*

(d) Normal pay under the proposed incentive scheme

Employee	**Calculation**	**€ / £**		**M Alloca**
Employee 1	170 units x € / £ 7.77		1,320.90	
Employee 2	170 units x € / £ 7.77		1,320.90	
Employee 3	150 units x € / £ 7.77		1,165.50	
Employee 4	150 units x € / £ 7.77		1,165.50	
Employee 5	160 units x € / £ 7.77		1,243.20	
Employee 6	180 units x € / £ 7.77		1,398.60	**5**