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# ACCA – Paper F5 Performance Management September and December 2015 Final assessment

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## Marking Report

### Notice to Markers

- 1 When commenting about the script performance, please ensure on individual questions and on overall assessment your comments cover areas of examination technique including:

<ul style="list-style-type: none"><li>• Time management</li></ul>	<ul style="list-style-type: none"><li>• Handwriting</li></ul>	<ul style="list-style-type: none"><li>• Presentation and layout</li></ul>	<ul style="list-style-type: none"><li>• Use of English</li></ul>
<ul style="list-style-type: none"><li>• Points clearly and concisely made</li></ul>	<ul style="list-style-type: none"><li>• Relevance of answers to question</li></ul>	<ul style="list-style-type: none"><li>• Coverage and depth of answer</li></ul>	<ul style="list-style-type: none"><li>• Accuracy of calculations</li></ul>
<ul style="list-style-type: none"><li>• Calculations cross-referenced to workings</li></ul>	<ul style="list-style-type: none"><li>• All parts of the requirement attempted</li></ul>	<ul style="list-style-type: none"><li>• Length of answers equates to marks available</li></ul>	<ul style="list-style-type: none"><li>• Read the question carefully</li></ul>

- 2 For each question, please provide suitable constructive comments

Question Number	General Comments	Exam Technique Comments

**ACCA FINAL ASSESSMENT**

# **Performance Management**

**September and December  
2015**

**Time allowed**

Reading and planning:      **15 minutes**

Writing:                      **3 hours**

**Answer ALL questions.**

**Do not open this paper until instructed by the supervisor.**

**This question paper must not be removed from the  
examination hall.**

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**Paper F5**

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**FORMULAE****Learning curve**

$$Y = ax^b$$

Where  $y$  = cumulative average time per unit to produce  $x$  units

$a$  = Time taken for the first unit of output

$x$  = The cumulative number of units produced

$b$  = learning the index of learning ( $\log LR / \log 2$ )

$LR$  = the learning rate as a decimal

**Demand curve**

$$P = a - bQ$$

$$b = \frac{\text{Change in price}}{\text{Change in quantity}}$$

$a$  = price when  $Q = 0$

$$MR = a - 2bQ$$

**SECTION A****ALL TWENTY questions are compulsory and must be attempted****Each question is worth 2 marks****1 The following statements have been made about activity-based costing (ABC):**

- (1) ABC is an alternative costing system to traditional overhead absorption costing.
- (2) ABC gives a more realistic picture of cost behaviour.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Neither (1) nor (2)
- D Both (1) and (2)

**2 Company B uses a throughput accounting system. The details of product X per unit are as follows:**

Selling price	\$50
Material cost	\$16
Conversion costs	\$20
Time on bottleneck resource	8 minutes

What is the return per hour for product X?

- A \$105
- B \$225
- C \$255
- D \$375

**3 MB manufactures a product that requires 3.75 hours per unit of machining time. Machine time is a bottleneck resource, because there is a limited number of machines.**

There are just seven machines, and each is available for up to 15 hours each day, five days a week. The product has a selling price of \$100 per unit, a direct material cost of \$40 per unit, a direct labour cost of \$10 per unit and a factory overhead cost of \$30 per unit. These costs are based on a weekly production and sales volume of 140 units.

What is the throughput accounting ratio?

- A 0.67
- B 1.50
- C 1.67
- D 5.33

**4 The following statements have been made about environmental internal failure costs:**

- (1) They are borne exclusively by the organisation.
- (2) The aim in incurring them is to determine whether adverse impacts are being created and whether environmental standards and internal policies are being complied with.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Neither (1) nor (2)
- D Both (1) and (2)

**5 Z sells PCs that it purchases through a regional distributor. An extract from its budget for the 4-week period ended 28 March 2014 shows that it planned to sell 600 PCs at a unit price of \$500, which would give a contribution to sales ratio of 25%.**

Actual sales were 642 PCs at an average selling price of \$465. The actual contribution to sales ratio averaged 20%.

What is the sales price variance (to the nearest \$1)?

- A \$22,470 (F)
- B \$1,470 (A)
- C \$1,470 (F)
- D \$22,470 (A)

**6 Z sells PCs that it purchases through a regional distributor. An extract from its budget for the 4-week period ended 28 March 2014 shows that it planned to sell 600 PCs at a unit price of \$500, which would give a contribution to sales ratio of 25%.**

Actual sales were 642 PCs at an average selling price of \$465. The actual contribution to sales ratio averaged 20%.

What is the sales volume contribution variance (to the nearest \$1) was:

- A \$5,050 (F)
- B \$5,150 (F)
- C \$5,250 (F)
- D \$5,350 (F)

- 7 A chemical flavouring, product C, is made by mixing together two materials. The standard cost of a batch is as follows:**

<i>Material</i>	<i>Kg per batch</i>	<i>\$ per kg</i>	<i>\$ per batch</i>
L	300	1.30	390
H	500	2.82	1,410
	<hr/>		<hr/>
Input per batch	800		1,800
10% standard loss	80		
	<hr/>		
Output per batch	720		
	<hr/>		

For batch no. 1247, material input was 250.5 kg of L and 669.5 kg of H. Output from the batch was 810 kg of product C.

What is the total material mix variance for the batch?

- A \$45 (A)  
 B \$45 (F)  
 C \$143.64 (A)  
 D \$143.64 (F)
- 8 A chemical flavouring, product C, is made by mixing together two materials. The standard cost of a batch is as follows:**

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10% standard loss	80		
	<hr/>		
Output per batch	720		
	<hr/>		

For batch no. 1247, material input was 250.5 kg of L and 669.5 kg of H. Output from the batch was 810 kg of product C.

What is the total material yield variance for the batch?

- A \$45 (A)  
 B \$45 (F)  
 C \$143.64 (A)  
 D \$143.64 (F)



**9 The following statements have been made about flexible budgets:**

- (1) Their purpose is to cap discretionary expenditure.
- (2) They are used to produce a revised forecast by changing the original budget when actual costs are known.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Neither (1) nor (2)
- D Both (1) and (2)

**10 The following statements have been made about fixed budgets:**

- (1) They are a budget for a single level of activity.
- (2) They are used when the mix of products is fixed in advance of the budget period.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Neither (1) nor (2)
- D Both (1) and (2)

**11 The following statements have been made about incremental budgeting:**

- (1) It can be defined as a system of budgetary planning and control that measures the additional costs that are incurred when there are unplanned extra units of activity.
- (2) Incremental budgets review and, if necessary, revise the budget for the next quarter to ensure that budgets remain relevant for the remainder of the accounting period.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Neither (1) nor (2)
- D Both (1) and (2)

**12 The following statements have been made about zero-based budgeting:**

- (1) It is a method of budgeting where an attempt is made to make the expenditure under each cost heading as close to zero as possible.
- (2) It is a method of budgeting whereby all activities are re-evaluated each time a budget is formulated.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Neither (1) nor (2)
- D Both (1) and (2)

**13 The following statements have been made about imposed budgets:**

- (1) Imposed budgets are likely to set realistic targets because senior management have the best idea of what is achievable in each part of the business.
- (2) Imposed budgets can be less effective than budgets set on a participative basis, because it is difficult for an individual to be motivated to achieve targets set by someone else.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Neither (1) nor (2)
- D Both (1) and (2)

**14 The following are measures gathered in the context of a balanced scorecard approach to the provision of management information:**

- (i) Training days per employee
- (ii) Percentage of revenue generated by new products and services
- (iii) Labour turnover rate

Which of the following measures might be appropriate for monitoring the innovation and learning perspective?

- A (i), (ii) and (iii)
- B (i) and (iii) only
- C (ii) only
- D (ii) and (iii) only

- 15 S Company has been investigating the time taken to produce one of its products, and found that a 90% learning curve appears to be applicable. The time taken for the first unit is 7 hours.**

What is the total time taken in hours for units 5 to 8 only?

- A 17.078 hours
- B 18.144 hours
- C 19.590 hours
- D 20.142 hours

- 16 A division of a company has capital employed of \$2m and its return on capital is 12%. It is considering a new project requiring capital of \$500,000 and is expected to yield profits of \$90,000 per annum. The company's interest rate is 10%.**

If the new project is accepted, what will the residual income of the division?

- A \$40,000
- B \$80,000
- C \$30,000
- D \$330,000

- 17 The following statements have been made management control reports:**

- (1) Reports should not include information about uncontrollable items.
- (2) Only encryption can be used to ensure the security of highly confidential information.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Both (1) and (2)
- D Neither (1) nor (2)

- 18 The following statements have been made about Transaction Processing Systems (TPS):**

- (1) TPS systems support structured decisions at operational and management control levels.
- (2) The failure of TPS systems can stop business from operating, as organisations rely heavily on them.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Both (1) and (2)
- D Neither (1) nor (2)

**19 The following statements have been made about the limitations of ROI as a performance measure:**

- (1) The ROI focuses on short-term performance, but investment decisions should be evaluated over their whole life.
- (2) The ROI does not relate the size of a division's income to the size of the investment.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Both (1) and (2)
- D Neither (1) nor (2)

**20 The following statements have been made about the meaning of the term 'economy' in a Value For Money approach to performance management:**

- (1) Economy means 'cost cutting'.
- (2) Economy means 'Getting out as much as possible for what goes in'.

Which of the above statements is/are true?

- A (1) only
- B (2) only
- C Both (1) and (2)
- D Neither (1) nor (2)

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## SECTION B

### ALL FIVE QUESTIONS ARE COMPULSORY AND MUST BE ATTEMPTED

- 1 You work in the Finance department at the Commerce Bank Ltd. Your manager, Mr MacDonald, has been to a business seminar where he has heard that ‘throughput accounting is the most modern costing technique and can hugely increase profitability’. He asks you to prepare a briefing note for him on this technique.

**Required:**

- (a) **Outline the principles of Throughput Accounting (Theory of Constraints) and explain the step-by-step process that would be used to maximise profits in a multi-product business.** (8 marks)
- (b) **Define and briefly explain the Throughput Accounting Ratio (TPAR) measure.** (2 marks)

**(Total: 10 marks)**

- 2 New Apple Health Clubs (NAHC) is a chain of fitness centres that operate in Bigland, a wealthy, developed nation that has a reputation for obesity amongst its population.

The government has recently announced their intention to tackle the problem by charging those individuals deemed obese for using the National Health Authority facilities, and introducing tax concessions for companies that provide services that correct the failing health of its members. To qualify for the concession these companies must demonstrate a 15% weight reduction in members, over a given period of time.

Each NAHC centre is located in a prime location, usually close to local shopping, entertainment and business districts. It aims to attract a high end clientele with large disposable incomes. The centres are equipped with state of the art fitness equipment, a heated swimming pool and luxury spa facilities. The centres also have on-site catering facilities, which have developed a reputation for the quality of the cuisine.

The company is committed to “enhancing the health of its members” and prides itself on recruiting and retaining the highest calibre personal trainers. They are paid a basic salary by the centre, and receive 60% of the revenue received for each client consultation. The personal trainers are graded by bookings received, with no other performance indicators used. The personal trainers take home pay usually exceeds that of the General Manager.

Each centre has a General Manager (GM) who is responsible for the entire operation, and is remunerated via a basic salary and a bonus linked to the achievement of the budgeted profit. Budgets are produced at Head Office level, with no involvement of the GM. There is usually a high turnover of GM’s, with the vast majority remaining in their post for a period of less than 18 months.

The new Guernsey centre has received their budget for the next financial year, ending 31 May 20X1, and the expected profit is \$1.5m. However, there is a degree of uncertainty regarding the economic outlook within Bigland. Commentators believe that the recent recovery may be misleading and that in fact a double dip recession is likely. If this occurs, then NAHC anticipate a 50% reduction in profit. If conditions remain stable, then profit will be unchanged, and in the unlikely event of economic growth, profit could rise by 10%.

Further the government incentives may lead to competitors emerging to challenge existing health clubs, which would lead to a loss of members and subsequently profit would reduce by \$0.5m regardless of the economic conditions.

#### Economic outlook

<i>Outcome</i>	<i>Probability</i>
Double Dip Recession	0.4
Stable	0.5
Growth	0.1

#### Required:

- (a) Prepare a summary table which shows the various possible net profit or loss outcomes for the year ending 31 May 20X1, stating any assumptions made. (6 marks)
- (b) Using your table and the expected value approach, briefly assess the likelihood that the GM will receive a bonus and comment on your findings. (2 marks)
- (c) Briefly comment on the usefulness of the expected values, making reference to the validity of the outcomes and probability data used. (2 marks)

(Total: 10 marks)

- 3 Fine Liners is a specialist manufacturer of luxury speed boats. It has designed a new boat called the 'Diamond' and expects to produce this boat in a continuous operation over an 18 month period. During this period, it is expected that a total of sixteen 'Diamonds' will be produced and sold. The production of the 'Diamond' is a labour intensive operation and units are produced one after another.

The costs of producing the first 'Diamond' are as follows:

Skilled labour	– 1,200 hours at a rate of \$20 per hour
Unskilled labour	– 1,800 hours at a rate of \$15 per hour
Materials	– \$20,000
Overheads	– \$10 per labour hour worked (total of skilled and unskilled)

It is known that in producing any product, skilled labour usage experiences an 80% learning curve effect and unskilled labour usage experiences a 90% learning curve effect.

Fine Liners has decided to set the selling price per unit of the Diamond as the average production cost per unit (for the full sixteen unit production run) plus a 25% addition thereon for profit.

**Note:** The learning curve formula is given in the formula sheet. At the learning rate of 0.8 (80%), the learning factor (b) is equal to  $-0.3219$ . At the learning rate of 0.9 (90%), the learning factor (b) is equal to  $-0.1520$ .

#### Required:

- (a) Calculate the selling price per unit of the Diamond. (4 marks)
- (b) Calculate the forecast total production cost of the third and fourth Diamond produced (that is, the cost of the third and fourth units together). Calculate the profit or loss arising from the sale of the third and fourth units using the unit selling price you have calculated in your answer to (a). (6 marks)

(Total: 10 marks)

- 4 AV is a charity, the primary objective of which is to meet the accommodation needs of persons within its locality. BW is a profit-seeking organisation which provides rented accommodation to the public.

Income and Expenditure accounts for the year ended 31 May 2014 were as follows:

	<i>AV</i> (in \$)	<i>BW</i> (in \$)
Rents received	2,386,852	2,500,160
Less:		
Staff and management costs	450,000	620,000
Major repairs and planned maintenance	682,400	202,200
Day-to-day repairs	478,320	127,600
Sundry operating costs	305,500	235,000
Net interest payable and other similar charges	526,222	749,840
	<hr/>	<hr/>
Total costs	2,442,442	1,934,640
Operating (deficit)/surplus	(55,590)	565,520

Operating information in respect of the year ended 31 May 2014 was as follows:

- (1) Property and rental information:

<i>Size of property</i>	<i>AV – number of properties</i>	<i>AV – rent payable per week (\$)</i>	<i>BW – number of properties</i>	<i>BW – rent payable per week (\$)</i>
1 bedroom	80	40	40	90
2 bedrooms	160	45	80	101
3 bedrooms	500	50	280	130
4 bedrooms	160	70	Nil	170

- (2) Staff salaries for the different grades of staff were payable as follows:

<i>AV</i>		<i>BW</i>	
<i>Number of staff at particular grade</i>	<i>Salary (\$) per staff member per annum</i>	<i>Number of staff at particular grade</i>	<i>Salary (\$) per staff member per annum</i>
2	35,000	3	50,000
2	25,000	2	35,000
3	20,000	20	20,000
18	15,000	–	–

- (3) Major repairs and planned maintenance undertaken:

Nature of work	AV		BW	
	Number of properties	Cost per property	Number of properties	Cost per property
		\$		\$
Miscellaneous construction work	20	1,250	–	–
Fitted kitchen replacements (all are the same size)	90	2,610	10	5,220
Heating upgrades/replacements	15	1,500	–	–
Replacement sets of windows and doors for 3-bed roomed properties	100	4,000	25	6,000

All expenditure on planned maintenance and major repairs may be regarded as revenue expenditure.

- (4) Day-to-day repairs information:

Classification	AV		BW
	Number of repairs undertaken	Total cost of repairs (\$)	Number of repairs undertaken
Emergency	960	134,400	320
Urgent	1,880	225,600	752
Non-urgent	1,020	118,320	204

Each repair undertaken by BW costs the same irrespective of the classification of repair.

**Required:**

- (a) Explain the term 'value for money'. Discuss how the management of AV could measure the 'value for money' of its service provision during the year ended 31 May 2014. NO calculations are required. (6 marks)
- (b) (i) Identify TWO performance measures in relation to EACH of the following dimensions of performance measurement that could be used by the management of AV when comparing its operating performance for the year ended 31 May 2009 with that of the previous year:
- Timeliness
  - Service quality. (2 marks)
- (ii) Calculate and comment on TWO performance measures relating to 'economy or efficiency' that could be utilised by the management of AV when comparing its operating performance against that achieved by BW. (7 marks)
- (Total: 15 marks)**



- 5 Sound Music Entertainment (SME) is one of six global recorder music companies that dominate the music industry. The company's stated mission is to produce and release a wide range of music in over 50 countries worldwide, in a variety of forms, that appeals to the majority of the population.

The company's operations are similar to that of its competitors, and include, in order of importance:

- 1 Producing music albums and singles for sales online, via downloads
- 2 Finding and managing artists on an international scale
- 3 Promoting artists signed to its record label at concerts, as well as merchandising.

The music industry has traditionally been very lucrative, which explains the ever increasingly competitive environment. In addition, artists are becoming more and more 'global' and difficult to manage, as they make higher and higher logistical and financial demands.

Sound Music does not currently operate its own retail website, but sells its music via other websites. The company has internet sales of approximately \$900 m per year, with customer purchases averaging \$15 per online transaction. This is often higher when an artist is being actively promoted whilst on tour. Moreover, the company experiences a peak selling time during November and December, when this average is often doubled.

The management of Sound Music is thinking of adopting a Balanced Scorecard approach in order to monitor its ability to meet its two main objectives of 'Increased customer satisfaction' and 'Gross profit margin in excess of 40%'. This GP indication is slightly above the (widely publicised and available) industry standard, but the management decided on this target to ensure the competitiveness of the business.

**Required:**

- (a) **Recommend and explain TWO performance indicators that can be used to support each of the two stated objectives of Sound Music in its Balanced Scorecard:**
- (i) **Customer satisfaction**
  - (ii) **Gross profit margin in excess of 40%. (6 marks)**
- (b) **Explain possible sources of information and the information systems that will be required in order to achieve the company's stated objectives. (9 marks)**

**(Total: 15 marks)**

