ACCA – Management Accounting (F2)

MTQ Question Bank

Ibrahim Sameer

ibrahimsameer@hotmail.com

Preference

Alhamdulillah!

In the name of Allah, most benevolent, ever merciful. All praise to be Allah, Lord of all the worlds, giving me the forte, new ideas and forbearance from the commencement until the completion of this book.

Management accounting combines accounting, finance and management with the leading edge techniques needed to drive successful businesses. Management accountants normally advise managers about the financial implications of projects, explain the financial consequences of business decisions, formulate business strategy, monitor spending and financial control, conduct internal business audits, explain the impact of the competitive landscape, and bring a high level of professionalism and integrity to business.

This book "MTQ Question Bank" is prepared for the syllabus requirements of ACCA – F2. The core intention of this book is to provide the students the comprehensive theory & practice question for students.

Complete care has been taken to make the book error free. However, mistakes might have crept in advertently. Readers finding any errors with regards to accounting treatment or calculations are requested to bring to my notice, for enabling me to rectify them in my future edition.

Like most text book, this book has also drawn from the works of a large number of researchers and authors in the field of finance. My compilation of this book has also been influenced by a number of standard and popular text books in the field. A number of problems, Illustrations and exercised in the book have been drawn from or are based on the examinations of universities and management institute around the globe as well as the public examinations of the professional bodies such as ACCA (UK), CIMA (UK), CPA (Irelands), CA (India) & ICWA (India).

Good Luck for your Exam

Ibrahim Sameer

Question 1

J Co makes a component M which uses 3kg of raw material X. The opening inventory at the start of next year is expected to be as follows.

Opening inventory of raw material X	5,000kg @ $4
Opening inventory of component M	3,000 units

Budgeted sales of component M are expected to be 48,000 units (occurring evenly throughout the year).

Closing inventory at the end of the year is as follows.

Closing inventory of raw material X	One month's worth of production
Closing inventory of component M	Two month's worth of sales

(a) How many units of component M are to be produced in the year? **(2 marks)**

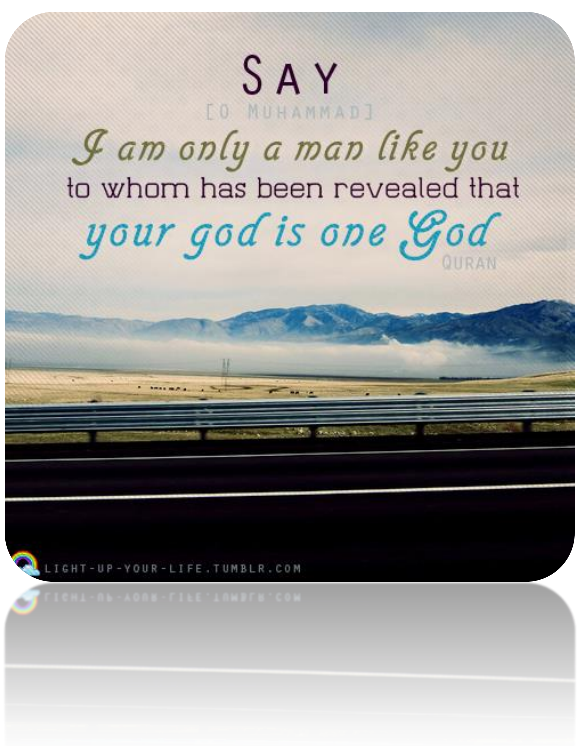
(b) How many kg of material X are required for production in the year? **(1 mark)**

(c) What is the material X purchases budget in $? **(2 marks)**

(d) What is the material X purchases budget for the year? **(1 mark)**

(e) Briefly explain THREE reasons why net profit and net cash flow may be different.
(4 marks)

(Total = 10 marks)



Question 2

(a) Given below is the forecast statement of profit or loss for a business for the three months ending 31 December together with forecast statements of financial position at that date and also at the previous 30 September.

Forecast statement of profit or loss for the three months ending 31 December

	$'000
Revenue	860
Cost of sales	(600)
Gross profit	260
Depreciation	(20)
Overheads	(100)
Profit from operations	140

Forecast statements of financial position

	31 December		*30 September*	
	$'000	$'000	$'000	$'000
Non-current assets		1,050		760
Current assets:				
Inventory	100		100	
Receivables	85		45	
Cash	10		10	
	195		155	
Payables	100		75	
Accruals of overheads	45		40	
	145		115	
Net current assets		50		40
		1,100		800
Equity share capital		600		600
Retained earnings		500		200
		1,100		800

Calculate the actual cash receipts and cash payments for the quarter to 31 December.

	$'000
Sales receipts	
Purchase payments	
Overhead payments	

(5 marks)

(b) The business currently sells its product for $30 but it is anticipated that there will be a price increase of 4% from 1 February. The sales quantities are expected to be as follows:

January	21,000 units
February	22,000 units
March	22,800 units

All sales are on credit and 40% of cash is received in the month following the sale and the remainder two months after the sale.

What are the receipts from sales that are received in March?

	$
January sales	
February sales	
Total March receipts	

(3 marks)

(c) Which of the following statements applied to a flexible budget?

A It is continuously updated by adding another accounting period when the earliest accounting period has come to an end

B It is amended in response to changes in costs

C It is produced before the control period and not subsequently changed in response to changes in activity, costs or revenues

D It is amended in response to changes in the level of activity **(2 marks)**

(Total = 10 marks)

Question 3

HM Co commenced business on 1 October 20X2, to provide specialist contract cleaning services to industrial customers. All sales are on credit.

More favourable credit terms are offered to larger customers (class A) than to smaller customers (class B). All sales are invoiced at the end of the month in which the sale occurs. Class A customers will be given credit terms requiring payment within 60 days of invoicing, while class B customers will be required to pay within 30 days of invoicing.

Since it is recognised, however, that not all customers comply with the credit terms they are allowed, receipts from customers have prudently been estimated as follows:

Customer type	*Within 30 days*	*31 to 60 days*	*61 to 90 days*	*91 to 120 days*	*Bad debts*
Class A		50%	30%	15%	5%
Class B	60%	25%	10%		5%

The above table shows that customers are expected either to pay within 60 days of the end of the credit period, or not at all. Bad debts will therefore be written off 60 days after the end of the credit period.

Budgeted credit sales for each class of customer in the first 4 months of trading are as follows:

Customer type	*October*	*November*	*December*	*January*
	$'000	$'000	$'000	$'000
Class A	100	150	200	300
Class B	60	80	40	50

Assume all months are of 30 days.

Required

(a) Prepare a statement showing the budgeted cash to be received by HM Co from customers in each of the three months of November 20X2, December 20X2 and January 20X3, based upon the prudently estimated receipts from customers. **(6 marks)**

(b) Budgets can be flexed using the high-low method.

Briefly state two advantages and two disadvantages of the high-low method. **(4 marks)**

(Total = 10 marks)

Question 4

(a) Briefly explain the purpose of index numbers. **(2 marks)**

(b) Product M uses four different types of materials. The materials used and their prices, in 20X6 and 20X7, are as follows.

	20X6		*20X7*	
	Kg	*$ per kg*	*Kg*	*$ per kg*
Material A	200	0.98	300	1.40
Material B	500	0.95	400	1.10
Material C	300	1.20	500	0.92
Material D	400	1.10	100	1.14

Required

Calculate the Laspeyre quantity index for 20X7 (with 20X6 as the base year) to two decimal places.

(4 marks)

(c) The following spreadsheet can be used to investigate the inter-relationship between advertising expenditure and sales.

	A	B	C	D	E
1	*Monthly advertising*				
2	*Expenditure*	*Sales*			
3	X	Y	X^2	Y^2	XY
4	1.2	132.5	1.44	17556.25	159
5	0.9	98.5	0.81	9702.25	88.65
6	1.6	154.3	2.56	23808.49	246.88
7	2.1	201.4	4.41	40561.96	422.94
8	1.6	161.0	2.56	25921.00	257.6
9	**7.4**	**747.7**	**11.78**	**117549.95**	**1175.07**

The cell E9 shows the total of the XY values. Which of the following would be a correct entry for this cell?

A =A9*B9
B =SUM(E4:E8)
C =SUM(A9:D9)
D =C9*D9

(2 marks)

(d) For which of the following tasks would a spreadsheet be used?

	Tick box
Cash flow forecasting	
Monthly sales analysis by market	
Writing a memo	
Calculation of depreciation	

(2 marks)

(Total = 10 marks)

Question 5

A company, which manufactures a range of products, has decided to introduce a product costing system. As a first step it wishes to analyse the behaviour of its costs.

The following data is available for the previous four periods.

	A	B	C	D	E
1		*Period 1*	*Period 2*	*Period 3*	*Period 4*
2	Total costs ($)	214,559	239,970	243,183	259,541
3	Total output	64,200	79,350	86,170	85,620

(a) Using the high-low method, which ONE of the following formulae will correctly calculate the cost of the variable element per unit?

A =E2-B2/E3-B3

B =(D2-B2)/(D3-B3)

C =(E2-B2)/(E3-B3)

D =D2-B2/D3-B3 **(2 marks)**

(b) Using the high-low method, establish a linear function of the form:

$y = a + bx$

to represent total costs. **(4 marks)**

(c) Using the linear function established in (b) above, estimate costs in the following period (Period 5) when output is expected to be 87,500 units. **(2 marks)**

(d) Briefly explain ONE limitation of the method used in part (c). **(2 marks)**

(Total = 10 marks)

Question 6

(a) CT Co uses a standard absorption costing system and manufactures and sells a single product called the DG. The standards cost and selling price details for the DG are as follows.

	$ per unit
Variable cost	12
Fixed cost	4
	16
Standard profit	6
Standard selling price	22

The sales volume variance reported in June was $12,000 adverse.

CT Co is considering using standard marginal costing as the basis for variance reporting in the future.

What would be the sales volume variance to be shown in a marginal costing operating statement for June? **(3 marks)**

(b) Explain the term standard costing and identify one advantage and one disadvantage of using ideal standards. **(5 marks)**

(c) A company has a budgeted material cost of $125,000 for the production of 25,000 units per month. Each unit is budgeted to use 2 kg of material. The standard cost of material is $2.50 per kg. Actual materials in the month cost $136,000 for 27,000 units and 53,000 kg were purchased and used.

What was the adverse material price variance?

A $1,000
B $3,500
C $7,500
D $11,000

(2 marks)
(Total = 10 marks)

Question 7

(a) Briefly explain two main reasons for using standards. **(5 marks)**

(b) Last month a company's budgeted sales were 5,000 units. The standard selling price was $6 per unit with a standard contribution to sales ratio of 60%. Actual sales were 4,650 units with a total revenue $30,225.

What were the favourable sales price and adverse sales volume contribution variance?

	Sales price	*Sales volume contribution*
	$	$
A	2,325	1,260
B	2,500	1,260
C	2,325	2,100
D	2,500	2,100

(2 marks)

(c) Explain what is meant by the interdependence of variances. **(3 marks)**

(Total = 10 marks)

Question 8

An extract of the standard cost card for product X100 is given below

		$ per unit
Direct labour	6 hours at $20 per hour	120

In the most recent period 5,000 units were produced. Direct labour was paid for 33,000 hours and cost $693,000.

Required

(a) Calculate the direct labour efficiency variance for product X100 for the most recent period: **(2 marks)**

(b) Briefly explain TWO reasons why an adverse labour efficiency variance may arise. **(4 marks)**

(c) Explain why the variances used to reconcile profit in a standard marginal costing system are different from those used in a standard absorption costing system. **(4 marks)**

(Total = 10 marks)

Question 9

Kubrick uses a standard absorption costing system to control the cost of its only product. The flexed budget for production overhead for the company shows a budgeted total overhead cost of $200,000 per period when 5,000 tonnes are produced and $264,000 per period when 9,000 tonnes are produced.

In Period 9, when the actual output was 6,500 tonnes, total actual overhead cost was $245,000 ($125,000 fixed and $120,000 variable). The standard fixed overhead absorption rate is $24 per tonne.

Required:

(a) Using the high-low technique, calculate the following:

(i) the budgeted variable overhead per tonne; **(2 marks)**

(ii) the budgeted fixed overhead per period. **(2 marks)**

(b) Calculate the following:

(i) the fixed overhead expenditure variance; **(2 marks)**

(ii) the fixed overhead volume variance. **(2 marks)**

(c) Explain one possible operational causes of each of the following:

(i) an adverse fixed overhead expenditure variance;

(ii) a favourable fixed overhead volume variance. **(2 marks)**

(Total = 10 marks)

Question 10

Mortensen manufactures wooden toys. It uses a standard costing system to control costs. The cutting department cuts the shapes which are sold as toy animals.

		$
Hardwood		16.00
Direct labour	30 minutes at $9 per hour	4.50
Fixed overhead	30 minutes at $4 per direct labour hour	2.00
		22.50

Fixed overhead absorption rates are based upon monthly fixed overheads of $26,000 and a budgeted monthly output of 13,000 sets of animals.

In the most recent month 14,000 sets of animals were made. 8,000 direct labour hours were worked and paid at $9.25 per hour. Actual fixed overheads were $23,000 for the month.

Required

(a) Calculate the following variances from standard cost for the most recent month.

(i) Fixed overhead expenditure

(ii) Fixed overhead efficiency

(iii) Fixed overhead capacity

(iv) Fixed overhead volume **(7 marks)**

(b) Explain the meaning and possible causes of the fixed overhead variances you have calculated in part (a)(ii) and (iii). **(3 marks)**

Question 11

Rediphone provides mobile telephone services to approximately three million people. Growth has been extremely rapid during the four years since the company's formation; there has been little time to set up a comprehensive management accounting system to control the expanding administration function. There are now more than 2,000 people employed over the following three departments: sales administration, handling account queries and credit control.

The need for information is now particularly urgent as the new head office, opened only 12 months ago, is already full. A solution has been proposed, whereby at least half of the staff would be encouraged to work from home, thus reducing the pressure on office accommodation. At the same time, efforts to provide for more attractive and flexible work patterns would be made as staff recruitment is also becoming a serious issue. Most of the tasks in the administration functions are fairly routine by nature and recent advances in information technology will enable workers to do almost all of their normal duties via a computer and modem in their own home.

Rediphone has sought your help in setting up a performance measurement system.

Required

(a) Suggest **two** financial and **two** non-financial measures by which management might seek to monitor the credit control department. **(4 marks)**

(b) Briefly explain how monitoring the output of home workers might be different from office based workers and suggest **three** examples of information that could be produced by a management accounting system to assist in monitoring the **efficiency** or **effectiveness** of remote workers. **(6 marks)**

Question 12

Perry is a large conglomerate company structured on a divisional basis. It seeks to maximise investor wealth. Head office avoids day to day involvement in divisional affairs and only intervenes if performance is considered unsatisfactory. Divisional performance is measured by residual income.

One of Perry's larger divisions operates a chain of high class hotels in one particular country. The division's mission statement is 'To be the hotel of first choice for business users and tourists'. Although the chain has generally been popular with tourists it is not proving quite so popular with business users and conference organisers.

Over the last two years the division has invested a large amount of money in modernising its hotels.

Head office is concerned that the performance of the hotel chain appears to have declined over the last few years despite this expenditure.

The following figures are available.

	20X2	*20X3*
	$m	$m
Capital employed	70	90
Operating profit	16	17

The cost of capital applicable to the hotel division is 20% per annum.

Required

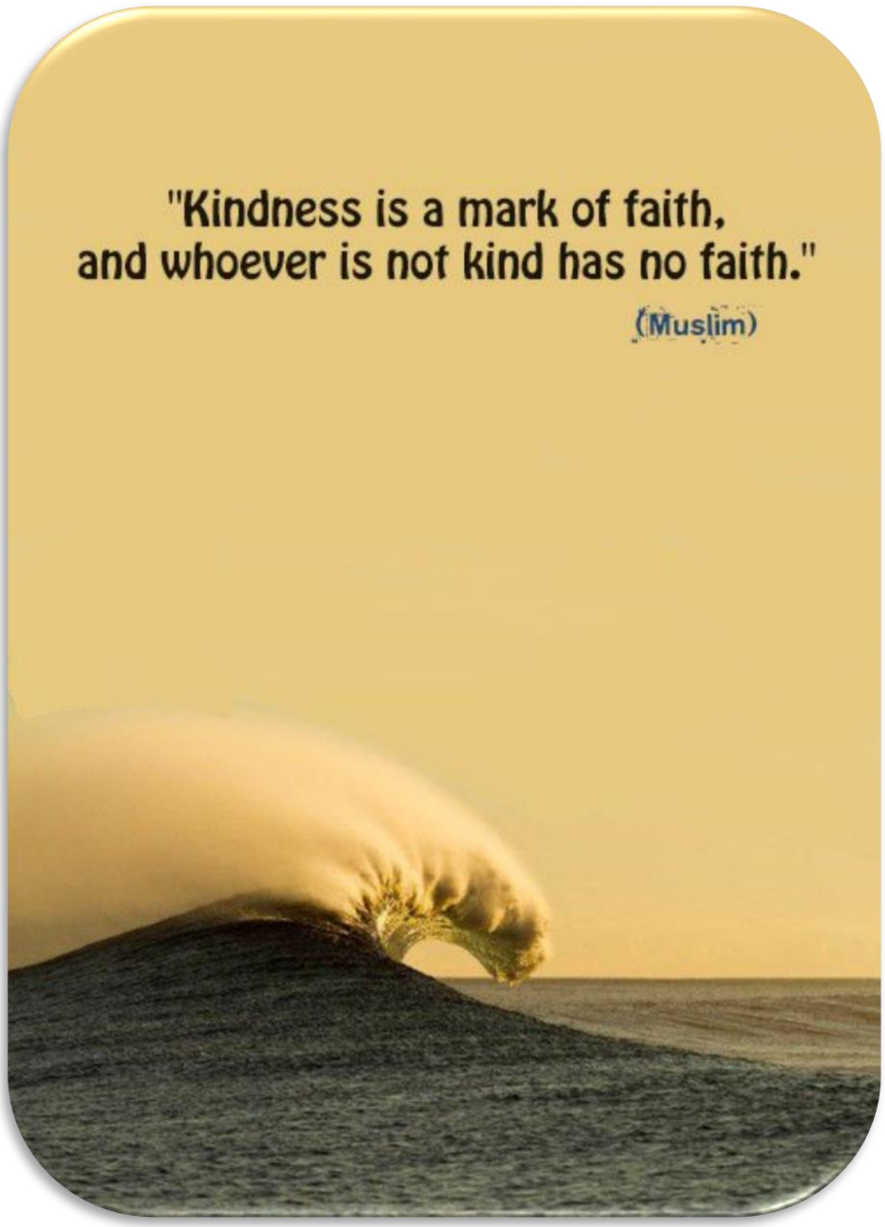
(a) Calculate the residual income for the hotel chain for each of the two years. **(2 marks)**

(b) Suggest for each of the following headings two critical success factors suitable for the hotel chain.

(i) Financial success
(ii) Customer satisfaction
(iii) Process efficiency
(iv) Organisational learning and growth

For each critical success factor suggest one key performance indicator suitable for the hotel chain. **(8 marks)**

(Total = 10 marks)



Question 13

Supervans is a freight delivery company. Its mission statement is 'to provide the quickest and most reliable delivery service to our customers and satisfactory returns to our shareholders'. The company currently has a total of 230 vans operating from eight depots making urgent deliveries of packages to small shops (mainly pharmacies) and businesses across the UK. Recently the company has started making deliveries of parcels to private households in the UK. The company is highly geared and cash flow as well as profitability is vital to its survival. Competition in its marketplace is fierce and customers expect a high standard of service. The depot managers are responsible for all the operations within their depot, a key role being route planning, as efficient routing of vehicles and drivers' schedules is a major cost driver. A typical depot includes the following operations: a depot manager; an administration and accounting department; vehicle maintenance; deliveries; and a sales and marketing team responsible for increasing business.

To date the company has judged the success of its depot managers on the basis of return on investment.

Required

(a) Explain the role of mission statements in performance measurement. **(3 marks)**

(b) Explain the balanced scorecard approach to performance measurement and discuss its advantages over traditional accounting performance measures such as return on investment. **(4 marks)**

(c) For one of the following categories suggest two critical factors and accompanying key performance indicators that could be useful in measuring the performance of a depot:

(i) Financial success
(ii) Customer satisfaction
(iii) Process efficiency
(iv) Innovation

(3 marks)
(Total = 10 marks)

Question 14

(a) Discuss the advantages and disadvantages of residual income as a divisional performance measure

(5 marks)

(b) A company has a current ratio of 1.5:1. It decides to use surplus cash balances to settle 30% of its total current liabilities.

The current ratio will

A Decrease by more than 30%
B Decrease by less than 30%
C Increase by more than 30%
D Increase by less than 30% **(2 marks)**

(c) Explain the purpose of benchmarking and list two limitations of benchmarking **(3 marks)**

(Total = 10 marks)

Question 15

WH is a member of a trade association which operates an inter-company comparison scheme. The scheme is designed to help its member companies to monitor their own performance against that of other companies in the same industry.

Your manager has given you the following extract, which shows the average profitability and asset turnover ratios for the latest year (Year 4). For comparison purposes, WH's accounts analyst has added the ratios for your company.

	Trade association average	*WH*
Return on capital employed	20.5%	18.4%
Asset turnover	3.8 times	2.7 times
Gross margin	14.2%	12.9%

Required

As assistant accountant for WH, your manager has asked you to prepare a report for the Senior Management Committee. The report should cover the following points.

(a) An explanation of what each ratio is designed to show
(b) An interpretation of WH's ROCE and asset turnover compared with the trade association average

(Total = 10 marks)

Question 16

The single product manufactured by Allegrop Co requires 2.5 kg of a single raw material per unit of product. The material costs $9.00 per kg.

Budgets are being prepared and the following additional information is available:

(1) Budgeted sales for the next three periods are:

Period 1	38,600	units
Period 2	26,500	units
Period 3	32,100	units

(2) Opening inventory of finished goods in each period is budgeted to be 25% of the budgeted sales demand in that period.

(3) Opening inventory of raw material in each period is budgeted to be one third of the budgeted material usage in that period.

1 mark

Task 1

Calculate the budgeted inventory of finished goods at the beginning of Period 1.

[ ] **units**

2 marks

Task 2

Calculate the budgeted production volume of the product in Period 2.

[ ] **units**

3 marks

Task 3

If the budgeted production in Period 3 is 31,600 units and in Period 4 is 28,900 units:

What are the budgeted purchases of the raw material in Period 3?	[ ]	**kg**
What is the budgeted cost of the raw material usage requirement in Period 4?	**$** [ ]	

Tasks 4 and 5

4 marks

It is possible that raw material availability will be restricted to 75,000 kg per period. If this situation arises, 75,000 kg of the material will be purchased and used in each period. Any sales demand not satisfied in a period would be lost.

Task 4

2 marks

Assume that the restriction on raw material supply occurs throughout the budget period and that there would be no inventory of raw material or finished goods at the beginning of Period 1. In this circumstance:

What would be the finished goods inventory at the end of Period 2?

[ ] **units**

Task 5

2 marks

Which of the following may enable Allegrop Co to increase output?

(1) Introduce a perpetual inventory system
(2) Introduce continuous stocktaking
(3) Use raw material more efficiently
(4) Take advantage of settlement discount

- ○ 1 and 3
- ○ 1, 2 and 4
- ○ 3 only
- ○ 2, 3 and 4

Question 17

Background

Kidling Co uses a standard marginal costing system for cost control of its single product. The standard cost card for the product is:

		$ per unit
Direct material	2.5 kg at $12.60 per kg	31.50
Direct labour	2 hours at $11.20 per hour	22.40
Variable production overhead		8.80
		62.70

Fixed production overheads are budgeted at $160,200 per month.

Actual results for the month just ended included:

Production	6,200 units
Direct materials	15,240 kg purchased and used at a total cost of $195,920
Direct labour	12,590 hours worked
Variable production overhead	$52,820
Fixed production overhead	$158,670

Task 1

8 marks

Calculate the following variances:

Direct material price	$ ____	(A/F)
Direct material usage	$ ____	(A/F)
Direct labour efficiency	$ ____	(A/F)
Total variable production overhead	$ ____	(A/F)
Fixed production overhead expenditure	$ ____	(A/F)

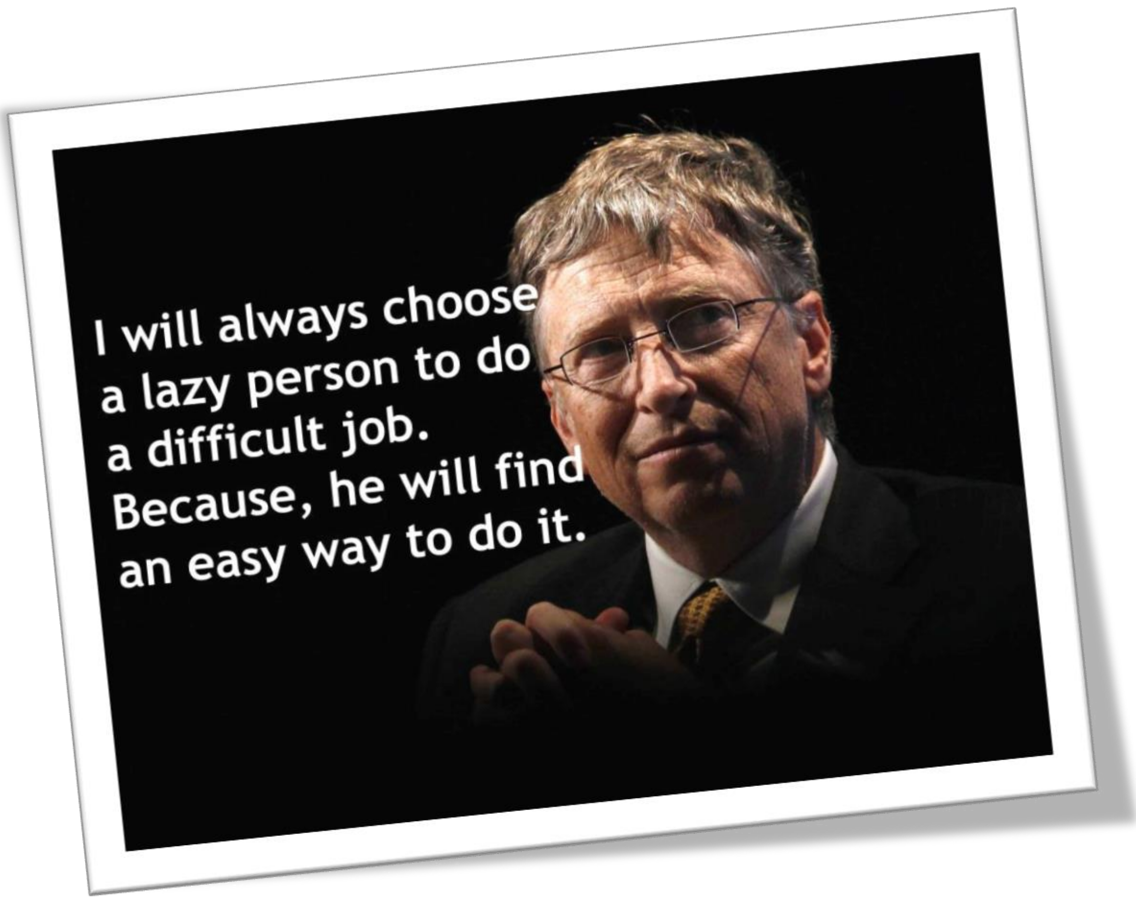
Task 2

2 marks

The direct labour rate variance in the month just ended was $1,908 favourable.

What was the total direct labour cost in the month?

- $283,924
- $139,100
- $142,916
- $280,108



Question 18

Background

The following information, for the year to 31 December 20X9, is available for Fun Co which operates in the toys and games industry.

	$'000
Sales	7,660
Gross profit	1,200
Operating profit	590
Capital employed	3,330
Current assets	400

The cost of capital of Fun Co is 12% per annum.

Fun Co sold 350,000 units in the year ended 31 December 20X9. Total sales for the toys and games industry for the year were $61,280,000.

Task 1

6 marks

Calculate the following performance measures for Fun Co for the year ended 31 December 20X9:

Operating profit margin (to one decimal place)			%
Asset turnover (to one decimal place)			times
Return on investment (to one decimal place)			%
Residual income (to nearest $'000)	$		'000
Market share (to one decimal place)			%

Task 2

2 marks

Return on investment (ROI) and residual income (RI) are both measures of investment performance.

Does each of the following statements describe a feature of ROI only, RI only, both ROI and RI or neither of the two measures?

	ROI only	RI only	Both	Neither
Based on profit rather than cash flow	○	○	○	○
Provide(s) a relative measure of investment performance	○	○	○	○
Facilitates the comparison of performance of business units of different size	○	○	○	○
Ensure(s) that managers will select investment projects with positive NPV	○	○	○	○

2 marks

Task 3

An analyst has calculated the following ratios for Fun Co for comparison with the toys and games industry average.

	Fun Co	**Toys and games industry average**
Current ratio	1.4:1	1.2:1
Gearing	55%	30%
Interest cover	6	5
Acid test	0.8:1	0.8:1

Complete the following commentary on Fun Co's performance relative to the industry average.

Fun Co's liquidity is…….. (Worse/Better) than the industry average.

Its capital gearing is……. (riskier/safer) than the industry average.

Its ability to service its loans is……. (Worse/Better) than the industry average, which could mean that Fun Co is ……. (lower/higher) having a level of profitability than the industry average.

Question 19

Dancer Co wishes to buy a new packaging machine. Two alternatives are available; Machine A and Machine B. Both have an expected life of three years. Dancer Co's management accountant has begun to prepare the following spreadsheet to evaluate the two machines but he has not yet completed it. The data entered to date is correct.

Machine B has a purchase cost of $10,000 and an expected scrap value in three years time of $4,000. It will generate a contribution of $7,000 per annum before incurring production overheads (including straight line depreciation) of $3,000 per year. In addition maintenance costs of $1,200 per year will be payable each year in advance. All costs and revenues, apart from the purchase cost and maintenance costs may be assumed to occur at the end of the year.

Dancer Co's cost of capital is 10% per year. In the spreadsheet, t0 represents the date of the initial investment, t1 represents the first anniversary of this date etc.

	A	B	C	D	E
1	**Machine A**				
2		**t0**	**t1**	**t2**	**t3**
3	Net cash flow ($)	-12,000	5,800	5,800	5,800
4					
5	**Machine B**				
6		**t0**	**t1**	**t2**	**t3**
7	Purchase cost ($)	-10,000			
8	Contribution ($)		7,000	7,000	7,000
9	Less:				
10	Production overheads ($)				
11	Maintenance costs ($)				
12	Net cash flow ($)				

6 marks

Task 1

What is the net present value (NPV) of Machine A (to the nearest $)? $ ______

What is the non-discounted payback period of Machine A (to the nearest one decimal place)? ______ **Years**

What value should be entered in cell C10? $ ______

What value should be entered in cell B11? $ ______

4 marks

Task 2

Does each of the following advantages apply to the NPV method, the non-discounted payback method, both of these methods or neither of these methods?

	NPV	Non-discounted payback	Both methods	Neither method
It is cash flow based	○	○	○	○
It takes into account the time value of money	○	○	○	○
It considers the effect on reported profits	○	○	○	○
It selects projects that quickly recoup their initial investment	○	○	○	○

Question 20

Product A is one of the products that are manufactured by a company. The following direct cost standards were set, for each batch of 50 units of Product A, for the period just ended:

Materials:	10 kg of Material X at $17.50 per kg
	5 litres of Material Y at $9.20 per litre
Labour:	20 hours at $12.50 per hour

Variable production overheads were absorbed at a standard rate of $3.70 per direct labour hour.

Fixed production overheads were absorbed at a standard rate per machine hour using the following budgeted data for the factory:

Budgeted fixed production overheads	$51,000
Budgeted machine hours	1,700

Each batch of Product A requires 8 machine hours.

40 batches of Product A were manufactured in the period just ended and the following direct resources were used:

Material X	416 kg
Material Y	195 litres
Labour	838 hours

6 marks

Task 1

What was the standard total variable production cost per unit of Product A (to two decimal places)? $ ______

What was the standard fixed production overhead cost per unit of Product A (to two decimal places)? **$** [ ]

What was the labour efficiency variance? **$** [ ] (F/A)

2 marks

Task 2

Do each of the following fixed production overhead variances occur in a standard marginal costing system?

	Yes	**No**
Expenditure	○	○
Efficiency	○	○
Capacity	○	○
Volume	○	○

2 marks

Task 3

Which of the following variances is/are required in order to reconcile the budgeted profit for a period with the standard profit on actual sales for the same period?

(1) Sales volume revenue variance

(2) Selling price variance

(3) Sales volume profit variance

(4) Total cost variance

○ 2, 3 and 4

○ 3 only

○ 1, 2 and 4

○ 1 only

Question 21

Donner Co operates for 365 days per year and makes all of its sales on credit. A summary of its current financial information is given below.

Summarised statement of profit or loss	**$'000**
Revenue	150,000
Cost of sales	60,000
Operating expenses	50,000
Operating profit	40,000
Finance charges	12,000
Profit before tax	**28,000**
Summarised statement of financial position	**$'000**
Non current assets	60,000
Current assets (all receivables)	35,000
	95,000
Ordinary share capital	15,000
Reserves	30,000
	45,000
Long term liabilities (5% bank loan)	30,000
Current liabilities	20,000
	95,000

Task 1 6 marks

Calculate the following based upon Donner Co's summarised financial information. All figures should be to one decimal place.

Return on capital employed (ROCE) ______ %

Asset turnover ratio (based upon capital employed) ______ times

Receivables days ______ days

Capital gearing (debt to equity) ______ %

Interest cover ratio [ ] times

Task 2

4 marks

The performance of Donner Co's closest rival, Competitor A, together with the industry average in their sector is given below.

	Competitor A	**Industry Average**
ROCE (%)	35.0	40.0
Asset turnover ratio based upon capital employed	2.0	3.0
Receivables (days)	70	65
Capital gearing (debt to equity) (%)	75.0	50.0
Interest cover ratio	2.0	5.0
Current ratio	1.5	2.0

Based on the figures above, are the statements about Competitor A true or false?

	True	**False**
Its liquidity position is worse than the industry average	○	○
It has a smaller operating profit margin than the industry average	○	○
If its operating profit were 30% lower it would make a net loss	○	○
Its capital gearing is riskier than the industry average		

Question 22

Background

Blitzen Co manufactures and sells a single product. It is preparing budgets for the three month period ending 31 December 20X5. The budget is virtually complete and the remaining task is to prepare the budgeted statement of financial position as at 31 December 20X5. Sales of the product and purchases of materials are all made on credit terms. There were no purchases or disposals of non-current assets in the period to 31 December 20X5. Entries marked 'n/a' are yet to be calculated. The following data is available:

Statement of financial position at 30 September 20X5		
	$	**$**
Assets		
Non-current assets (net)		10,000
Current assets		
Raw material inventory	4,000	
Trade receivables	3,000	
Cash	1,000	
		8,000
		18,000
Equity and liabilities		
Ordinary shareholders funds		16,000
Current liabilities		
Trade payables		2,000
		18,000

Budgeted statement of financial position at 31 December 20X5		
	$	**$**
Assets		
Non-current assets (net)		n/a
Current assets		
Raw material inventory	4,500	
Trade receivables	n/a	
Cash	n/a	
Equity and liabilities		
Ordinary shareholders funds		19,500
Current liabilities		
Trade payables		n/a

Budgeted statement of profit or loss for the quarter ending 31 December 20X5

Cash budget for the quarter ending 31 December 20X5

	$
Sales	25,000
Direct materials	14,000
Direct wages	6,000
Depreciation	1,500
Net profit/(loss)	**3,500**

	$
Receipts from customers	23,000
Payments	
Materials	12,000
Wages	6,000
Net cash inflow	**5,000**

7 marks

Task 1

What figure should be included in the budgeted statement of financial position as at 31 December 20X5 for each of the following items?

Non-current assets $ ______

Receivables $ ______

Cash $ ______

Payables $ ______

2 marks

Task 2

Blitzen Co is about to start work on budgets for 20X6. One kg of direct material A is required to make four units of its product. Each unit of product also requires three kg of material B and two hours of direct labour. Demand for the product and the supply of material A is unlimited, but only 50,000 kg of material B and 40,000 labour hours are available in the coming period.

What is the principal budget factor for 20X6?

- Direct material A
- Sales demand
- Direct material B
- Direct labour

1 mark

Task 3

What would be the order of budget preparation for a manufacturing company who's principal budget factor was sales demand?

- Purchases budget, production budget, sales budget
- Sales budget, purchases budget, production budget
- Sales budget, production budget, purchases budget

Question 23

Background

Rudolph Co uses a standard marginal costing system to control the costs and revenues of its only product. The following spreadsheet shows a standard cost-based operating statement for the month of July. Entries for some cells have been deliberately omitted.

	A	B	C	D	E
1	**Standard cost operating statement**				
2				$	
3	Budgeted contribution			100,000	
4	omitted			2,000	adverse
5	Standard contribution on actual sales			98,000	
6	omitted			4,000	favourable
7				102,000	
8	Variable cost variances	Favourable	Adverse		
9		$	$		
10	Direct labour rate	nil			
11	Direct labour efficiency		12,000		
12	Direct material price	8,000			
13	Direct material usage		5,000		
14		8,000	17,000	9,000	adverse
15	omitted			93,000	
16	Budgeted fixed overheads			10,000	
17	Fixed overhead expenditure variance			4,000	favourable
18	Actual profit			omitted	
19					

Task 1

2 marks

Complete the following cells with the correct text label.

Cell A4 ……. (sales volume contribution variance/ sales price variance/ sales turnover variance)

Cell A15 …….. (Standard profit/ Actual contribution/ Actual variable cost)

Task 2

2 marks

Which of the following will calculate correctly the value in cell D18?

- =D15+D16+D17
- =D7-D14-D16+D17
- =D7-D14+D17
- = sum(D3:D17)

Task 3

2 marks

Which of the following is a possible explanation of the variable cost variances?

- A new expensive material was easier to work with
- A new cheap material was more difficult to work with
- A new expensive material resulted in less wastage
- A new cheap material was easier to work with

Task 4

4 marks

Rudolph Co is now considering changing the costing system from standard marginal costing to standard absorption costing system. You are given further details that were used to prepare the July operating statement as follows:

(1) Budgeted sales and production were 5,000 units

(2) Actual sales and production were 4,900 units

If Rudolph Co had used standard absorption costing in the month of July, what would have been the value of the following:

Fixed overhead volume variance	[ ]	adverse
Sales volume variance	[ ]	adverse

Question 24

Background

Vixen Co is an internet based retailer of books and music. It believes that the factors critical to the success of its business are the:

(1)	Number of people visiting its website
(2)	Conversion of website visits into orders
(3)	Amount of time it takes to deliver an order to a customer
(4)	Level of customer satisfaction with the way in which it deals with customer returns

Results for the most recent year are given below:

Website visits	5,000,000
Value of customer orders placed	$30,000,000
Average value per order placed	$20
Average value of undelivered orders at the end of each day	$411,000
Number of orders returned	150,000
Number of complaints about returns process	1,000

Customers place a maximum of one order per visit to the website. The company operates for 365 days per year.

6 marks

Task 1

Calculate the following for Vixen Co for the most recent year.

The average number of website visits per day (to the nearest whole number)		visits
The conversion rate of website visits into orders (to the nearest whole number)		%
The average delivery time per order (to the nearest day)		days
The percentage of customer returns made without complaint (to the nearest whole number)		%

Task 2 2 marks

The performance indicators calculated above are part of Vixen Co's balanced scorecard performance monitoring system. They measure process efficiency and customer satisfaction.

Which TWO of the following are also balanced scorecard perspectives?

- [ ] Effectiveness
- [ ] Growth
- [ ] Financial success
- [ ] Economy

Task 3 2 marks

Which of the following statements about balanced scorecard approach to performance measurement is TRUE?

- ○ It is part of the benchmarking process
- ○ It ignores cause and effect relationships between performance measures
- ○ It includes financial and non-financial indicators
- ○ It must have an equal number of performance measures in each perspective

Question 25

Cab Co owns and runs 350 taxis and had sales of $10 million in the last year. Cab Co is considering introducing a new computerised taxi tracking system.

The expected costs and benefits of the new computerised tracking system are as follows:

(i) The system would cost $2,100,000 to implement.

(ii) Depreciation would be provided at $420,000 per annum.

(iii) $75,000 has already been spent on staff training in order to evaluate the potential of the new system. Further training costs of $425,000 would be required in the first year if the new system is implemented.

(iv) Sales are expected to rise to $11 million in Year 1 if the new system is implemented, thereafter increasing by 5% per annum. If the new system is not implemented, sales would be expected to increase by $200,000 per annum.

(v) Despite increased sales, savings in vehicle running costs are expected as a result of the new system. These are estimated at 1% of total sales.

(vi) Six new members of staff would be recruited to manage the new system at a total cost of $120,000 per annum.

(vii) Cab Co would have to take out a maintenance contract for the new system at a cost of $75,000 per annum for five years.

(viii) Interest on money borrowed to finance the project would cost $150,000 per annum.

(ix) Cab Co's cost of capital is 10% per annum.

Required:

(a) State whether each of the following items are relevant or irrelevant cashflows for a net present value (NPV) evaluation of whether to introduce the computerised tracking system.

(i) Computerised tracking system investment of $2,100,000;
(ii) Depreciation of $420,000 in each of the five years;
(iii) Staff training costs of $425,000;
(iv) New staff total salary of $120,000 per annum;
(v) Staff training costs of $75,000;
(vi) Interest cost of $150,000 per annum.

Note: The following mark allocation is provided as guidance for this requirement:

(i) 0·5 marks
(ii) 1 mark
(iii) 0·5 marks
(iv) 1 mark
(v) 1 mark
(vi) 1 mark

(5 marks)

(b) Calculate the following values if the computerised tracking system is implemented.

(i) Incremental sales in Year 1;
(ii) Savings in vehicle running costs in Year 1;
(iii) Present value of the maintenance costs over the life of the contract.

Note: The following mark allocation is provided as guidance for this requirement:

(i) 1 mark
(ii) 0·5 marks
(iii) 1·5 marks

(3 marks)

(c) Cab Co wishes to maximise the wealth of its shareholders. It has correctly calculated the following measures for the proposed computerised tracking system project:

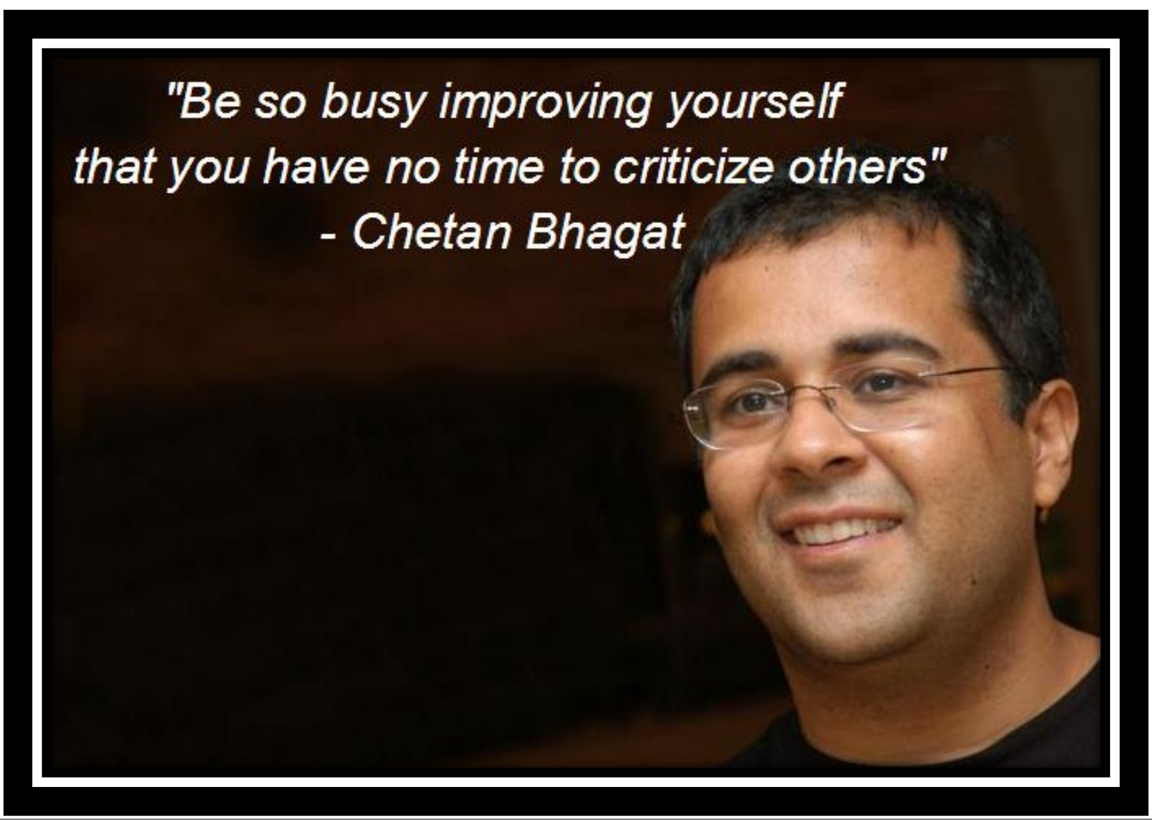
– The internal rate of return (IRR) is 14%,
– The return on average capital employed (ROCE) is 20% and
– The payback period is four years.

Required:

Which of the following is true?

A The project is worthwhile because the IRR is a positive value
B The project is worthwhile because the IRR is greater than the cost of capital
C The project is not worthwhile because the IRR is less than the ROCE
D The project is not worthwhile because the payback is less than five years (2 marks)

(10 marks)



Question 26

Castilda Co manufactures toy robots. The company operates a standard marginal costing system and values inventory at standard cost.

The following is an extract of a partly completed spreadsheet for calculating variances in month 1.

	A	B	C	D
1	**Standard Cost Card- Toy Robot**		$ per robot	
2	Selling price		120	
3	Direct material	1 material per unit	20	
4	Direct labour	6 hours @ $8 per hour	48	
5	Production overhead		24	
6	Standard contribution		28	
7	**Actual and budgeted activity levels in units**	**Budget**	**Actual**	
8	Sales	25,000	25,600	
9	Production	25,000	26,000	
10	**Actual sales revenue and variable costs**	$		
11	Sales	3,066,880		
12	Direct material(purchased and used)	532,800		
13	Direct labour (150,000 hours)	1,221,000		
14	Variable production overhead	614,000		
15	**Variances**	$		
16	Total direct materials variances	12,800	Adverse	
17	Direct labour rate variances	21,000	Adverse	
18	Direct labour efficiency variances	48,000	Favourable	
19	Total variable production overhead variances	10,000	Favourable	

Required:

(a) Which formula will correctly calculate the direct labour efficiency variance in cell B18?

A = (C9*C4)- B13
B =B13-(C9*C4)
C = (C9*C4)- (150,000*8)
D =(150,000-(C9*6))*8 (2 marks)

(b) Calculate the following for month 1:

(i) Sales volume variance and state whether it is favourable or adverse;
(ii) Sales price variance and state whether it is favourable or adverse.

Note: The total marks will be split equally between each part. (5 marks)

(c) Castilda's management accountant thinks that the direct labour rate and efficiency variances for Month 1 could be interrelated.

Required:

Briefly explain how the two direct labour variances could be interrelated. (3 marks)

(10 marks)

Question 27

Nicholson Co sells mobile telephones. It supplies its customers with telephones and wireless telephone connections. Customers pay an annual fee plus a monthly charge based on calls made.

The company has recently employed a consultant to install a balanced scorecard system of performance measurement and to benchmark the results against those of Nicholson Co's competitors. Unfortunately the consultant was called away before the work was finished. You have been asked to complete the work. The following data is available.

Nicholson Co
Operating data for the year ended 30 November 2013

Sales revenue	\$480 million
Sales attributable to new products	\$8 million
Average capital employed	\$192 million
Profit before interest and tax	\$48 million
Average numbers of customers	1,960,000
Average number of telephones returned for repair each day	10,000
Number of bill queries	12,000
Number of customer complaints	21,600
Number of customers lost	117,600
Average number of telephones unrepaired at the end of each day	804

Required:

(a) Calculate the following ratios and other statistics for Nicholson Co for the year ended 30 November 2013.

- **(i) Return on capital employed;**
- **(ii) Return on sales (net profit percentage);**
- **(iii) Asset turnover;**
- **(iv) Average wait for telephone repair (in days);**
- **(v) Percentage of customers lost per annum;**
- **(vi) Percentage of sales attributable to new products.**

Note: The following mark allocation is provided as guidance for this requirement:

- (i) 1·5 marks
- (ii) 1·5 marks
- (iii) 1·5 marks
- (iv) 1·5 marks
- (v) 1 mark
- (vi) 1 mark

(8 marks)

(c) A balanced scorecard measures performance from four perspectives: customer satisfaction, growth, financial success and process efficiency.

Required:

Briefly explain any ONE of the four perspectives above. (2 mark)

(10 marks)

Question 28

− Background

The director of Donny Co is reviewing the performance of its division.

The following information is available for the year ending 31 March 20X9 for its South division.

	South division
	($)
Sales	50,000
Operating profit	700
Capital employed	3,500

South division operates in the food retail industry. The total food retail industry sales for the year ending 31 March 20X9 were $1,250,000.

− Task 1 0 of 6 marks

Calculate the following performance measures for South division.

Return on investment			%
Return on sales (to one decimal place)			%
Asset turnover (to nearest whole number)			times
Residual income (using an imputed charge of 12% per annum)	$		
Market share			%

Task 2 — 0 of 2 marks

Is each of the following an advantage of residual income as a measure of divisional performance over return on investment?

	Yes	No
It is directly related to net present value (NPV)	○	○
It is more easily understood by divisional managers	○	○
It avoids short term dysfunctional decision making	○	○
It relates the size of the division's income to the size of the investment	○	○
It helps in comparing performance of the managers of divisions of different sizes	○	○
It makes divisional managers aware of the cost of financing their divisions	○	○
It ensures that managers will select projects with positive net present values (NPV)	○	○
It gives an absolute measure of performance	○	○

Task 3 — 0 of 2 marks

Which TWO of the following are non-financial indicators that can be used to measure performance?

- ☐ Non-productive hours per month
- ☐ Defects per product per month
- ☐ Return per machine per month
- ☐ Profit per product per month

Question 29

– Background

Kinn Co produces a single product. Each finished product requires 3 kg of raw materials. The raw material costs $6 per kg.

You are given the following information.

(1) Kinn Co prepares budgets on a quarterly basis. Each quarter consists of 13 weeks, with five working days per week

(2) It is the company's policy to maintain an inventory of finished goods at the end of each quarter equal to five day's demand for the next quarter whenever possible

(3) It is not possible to hold raw material inventory because of its perishable nature, but it is possible to hold inventory of finished goods at any level

(4) Forecast sales units for the next four quarters are:

Quarter 1	1,950,000
Quarter 2	2,275,000
Quarter 3	3,250,000
Quarter 4	2,275,000

(5) Selling price is $56 per unit

(6) Kinn Co aims to maximise its profits

– Task 1 0 of 2 marks

Calculate the budgeted opening and closing finished goods inventory for Quarter 1 to the nearest thousand units.

Opening finished goods inventory [ ] '000 units

Closing finished goods inventory [ ] '000 units

– Task 2 0 of 2 marks

The desired closing finished goods inventory in Quarter 4 is 150,000 units. Calculate the budgeted number of units to be produced in Quarter 4 to the nearest thousand units.

Production in Quarter 4 [ ] '000 units

– Task 3 **0 of 2 marks**

Kinn Co budgets to produce 3,175,000 units in Quarter 3 to meet sales demand and to achieve a closing finished goods inventory of 175,000 units.

What is the budgeted cost for raw material usage in Quarter 3 to the nearest thousand dollars?

$ [ ] '000

– Tasks 4 and 5 **0 of 4 marks**

The company's raw material supplier has informed them that due to restrictions on the manufacture of the material, the supply to the company will be restricted to 6,600,000 kg per quarter for the foreseeable future beginning from quarter 1. Kinn decides to purchase the maximum amount of material available in each quarter and build up inventory of finished goods whenever possible. Under these restrictions the budgeted opening finished goods inventory in quarter 3 will be 325,000 units.

Task 4 0 of 2 marks

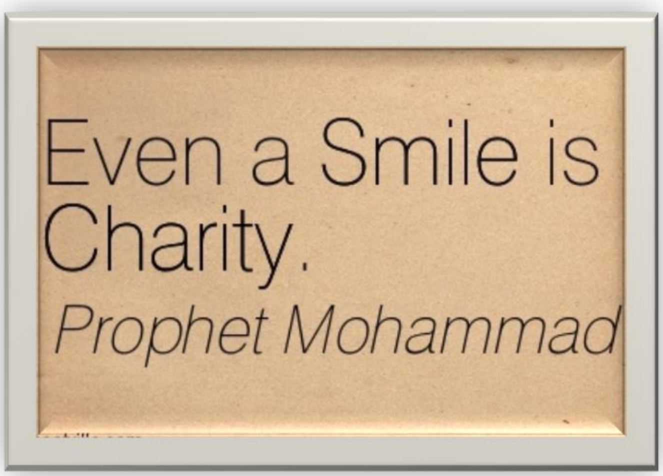
Calculate a revised closing finished goods inventory for Quarter 3 to the nearest unit, taking into account the restrictions on the raw material supply.

[ ] **units**

Task 5 0 of 2 marks

Which TWO of the following would NOT help Kinn Co overcome problems caused by the restriction in raw material supply?

- [ ] Seeking alternative sources of supply
- [ ] More efficient use of material
- [ ] Requesting a settlement discount
- [ ] Using the economic order quantity model



Question 30

Prancer Co uses standard costing to control its costs and revenues. A standard cost card for its only product is given below together with a standard cost operating statement for last month.

Standard cost card

	$ per unit
Selling price	150
Direct materials 2 kg @ $25/kg	50
Direct labour 3 hours @ $10 per hour	30
Fixed overhead 2 hours at $10 per hour	20
Profit	50

Standard cost operating statement

	$		**$**
Budgeted profit	600,000		
Sales volume variance	60,000	adv	
Standard profit on actual sales	**540,000**		
Sales price variance	20,000	fav	
	560,000		
Production cost variances			

	Adverse	Favourable	
	$	**$**	
Material price		7,500	
Material usage	8,000		
Labour rate	2,000		
Labour efficiency		500	
Fixed overhead expenditure	7,000		
Fixed overhead volume	2,000		
	19,000	**8,000**	11,000 adv
Actual profit			**549,000**

Select the appropriate words, phrases or numbers to correctly complete the commentary on the last month's results.

Prancer Co uses standard costing. In the last month actual selling price was standard.

Actual units sold were budgeted and actual sales revenue was $

Production was than budgeted.

Materials caused the biggest cost variances, where a decision to pay standard price resulted in the company using budget.