The Institute of Finance Management
Department Accounting and Finance
Management Accounting
Tutorial Questions
Dr Zawadi Ally

Income effects of alternative cost accumulation systems

Question 1
Marginal costs are those costs that are incurred only if a job or activity is performed. Marginal costs are important in decision-making
Required
Discuss briefly, five arguments against marginal costing

Question 2
ABC Ltd makes and sells one product, which has the following standard cost

			TZS
Direct labour	3 hours at TZS 6 per hour		18
Direct materials	4 kilograms at TZS 7 per kg		28
Production overhead		variable	3
	Fixed		20
Standard production cost per unit			**69**

Normal output is 16,000 units per annum. Variable selling, distribution, and administration costs are 20 percent of sales value. Fixed costs are TZS 180,000 per year. There is no unit in finished goods stock at 1 October 20X2. The fixed overhead expenditure is spread evenly throughout the year. The selling price per unit is TZS 140 Production and sales budgets are as follows.

	Six months ending 31 March 20X3	Six months ending 30 September 20X3
Production	8,500	7,000
Sales	7,000	8,000

Required
Prepare profit statements for each of the six-monthly periods, using the following methods of costing.
(a) Marginal costing
(b) Absorption costing

Question 3

Lodi Lofa Ltd budgeted to make and sell 10,000 units of its product in 20X1. The selling price is TZS 10 per unit and the variable cost TZS 4 per unit. Fixed production costs were budgeted at TZS 50,000 for the year. The Company uses absorption costing and budgeted and absorption rate of TZS 5 per unit. During 20X1, it became apparent that sales demand would only be 8,000 units. The management, concerned about the apparent effect of the low volume of sales on profits. The company decided to increase production for the year to 15,000 units. Actual fixed costs were still expected to be TZS 50,000 in spite of the significant increase in production volume.

Required

Calculate the profit at an actual sales volume of 8,000 units using the following methods

(a) Absorption costing

(b) Marginal costing

Question 4

Tumbi Motors Ltd assembles and sells motor vehicles. It uses an actual costing system, in which unit costs are calculated on a monthly basis. Data relating to the month of March, 2008 is as given below:

Particulars	**Units**	**TZS**
Opening inventory	150	
Production	400	
Sales	520	
Variable cost data		
Manufacturing costs per unit		10,000
Distribution costs per unit sold		3,000
Fixed cost data		
Manufacturing costs		2,000,000
Marketing costs		600,000

The selling price per motor vehicle is TZS 24,000

Required

(a) Prepare an income statement for Tumbi Motors Ltd under

(i) Variable costing

(ii) Absorption costing

(b) Clearly explain the difference between (a) (i) and (ii) above for the month of March

Question 5

The general Manager of Kazimoto Company has received the following Income Statement for the month of May 2006 which was prepared on a direct costing basis.

Kazimoto Company

Income statement for the month of may 2006

	TZS
Sales	24,000,000
Less: Variable cost of Goods sold	12,000,000
Contribution Margin	12,000,000
Less: Fixed Manufacturing costs at budget	6,000,000
Gross Margin	6,000,000
Less: Fixed selling and Administrative costs	4,000,000
Net Income before tax	**2,000,000**

The following notes were attached to income Statement

	TZS
• The unit sales price for May 2006 averaged	2,400
• The unit Manufacturing costs were	
o Variable costs	1200
o Fixed costs applied	400
o Total costs	**1600**

- The unit fixed manufacturing overhead is based upon a normal monthly production of 15,000 units
- Variables costs per unit have been stable throughout the year.
- Production for May 2006 was 4,500 units in excess of sales
- The inventory at May 30th 2006 consisted of 8,000 units.

Being the first time, the General Manager was presented with an Income Statement prepared on a direct costing basis; he was not very comfortable with the results and keep on wondering what the net income would have been under the absorption costing basis.

Required

(a) Present the May 2006 Income Statement on an absorption costing bases

(b) Reconcile and explain the differences in net income between the two costing bases

Question 6

The following information relates to Product G, for quarter three, which has just ended.

Production Units)	Sales (Units)	Fixed overheads (TZS '000')	Variable costs (TZS'000')

Budget	40,000	38,000	300	1,800
Actual	46,000	42,000	318	2,070

The selling price of product G was TZS 72 per unit
The fixed overheads were absorbed at a predetermined rate per unit. At the beginning of quarter three, there was an opening stock of product G of 2000 units valued at TZS 25 per unit variable costs and TZS 5 per unit fixed overheads.

Required

(a) Calculate the fixed overhead absorption rate per unit for the last quarter

(b) Present profit statements using FIFO using
- Absorption costing
- Marginal costing
- Reconcile and explain the difference between the profits or losses

(c) Using the same data to present similar statements to those required in part (b), using the AVCO method of valuation, reconcile the profit or loss figures, and comment briefly on the variations between the profits or loses in (b) and (c)

Question 7

The Management of the Company intended to have two income statements, one based on variable costing and based on absorption costing for decision purposes. In order to prepare these statements, the following information was assembled and handled to you for the necessary action:

(i) Opening stock at the beginning of the operating period consisted of 25,000 finished units and 5,000 units in process that were 100% completed with respect to raw materials, and 20% completed with respect to conversion.

(ii) During the operating period ended, the company transferred 230,000 units to the warehouse. in the same period, the company sold 210,000 units each at TZS 4,200. The expenditure in the same period, did not differ from expectations except for reasons of operating volume change. The company targeted to produce and sell 240,000 units

The expenditure in question included the following:

	TZS
Unit direct materials cost	500
Unit direct labour cost	600
Unit variable factory overhead cost	400
Annual fixed factory cost	98,000,000
Annual fixed administration cost	250,000,000
Annual fixed distribution cost	100,000,000

Required

(a) Indicate the equivalent production units to which overhead was applied in the period ended
(b) Prepare two Statements of income, one based on variable costing and another based on absorption costing
(c) Reconcile the income difference

Question 8

DC Limited is an engineering company which uses job costing to attribute costs to individual products and services provided to its customers. It has commenced the preparation of its fixed production overhead cost budget for 2008 and has identified the following costs:

	(TZS000)
Machining	600
Assembly	250
Finishing	150
Stores	100
Maintenance	80
	1 180

The stores and maintenance departments are production service departments. An analysis of the services they provide indicates that their costs should be apportioned accordingly:

	Machining	**Assembly**	**Finishing**	**Stores**	**Maintenance**
Stores	40%	30%	20%	–	10%
Maintenance	55%	20%	20%	5%	–

The number of machine and labour hours budgeted for 2008 is:

	Machining	**Assembly**	**Finishing**
Machine hours	50 000	4 000	5 000
Labour hours	10 000	30 000	20 000

Requirements:

(a) Calculate appropriate overhead absorption rates for each production department for 2008.

(b) Prepare a quotation for job number XX34, which is to be commenced early in 2008, assuming that it has:

Direct materials costing	TZS2400
Direct labour costing	TZS1500

and requires:

	Machine hours	**Labour hours**
Machining department	45	10
Assembly department	5	15
Finishing department	4	12

and that profit is 20% of the selling price.

(c) Assume that in 2008 the actual fixed overhead cost of the assembly department totals TZS300 000 and that the actual machine hours were 4200 and actual labour hours were 30,700.
Prepare the fixed production overhead control account for the assembly department, showing clearly the causes of any over-/under-absorption.

Question 9
A company sells a single product at a price of TZS14 per unit. Variable manufacturing costs of the product are TZS6.40 per unit. Fixed manufacturing overheads, which are absorbed into the cost of production at a unit rate (based on normal activity of 20 000 units per period), are TZS92 000 per period. Any over- or under-absorbed fixed manufacturing overhead balances are transferred to the profit and loss account at the end of each period, in order to establish the manufacturing profit.

Sales and production (in units) for two periods are as follows:

	Period 1	**Period 2**
Sales	15,000	22,000
Production	18,000	21,000

The manufacturing profit in Period 1 was reported as TZS 35,800.
Required:
(a) Prepare a trading statement to identify the manufacturing profit for Period 2 using the existing absorption costing method.
(b) Determine the manufacturing profit that would be reported in Period 2 if marginal costing was used.
(c) Explain, with supporting calculations:
(i) The reasons for the change in manufacturing profit between Periods 1 and 2 where absorption costing is used in each period;
(ii) Why the manufacturing profit in (a) and (b) differs.

Question 10

The following budgeted profit statement has been prepared using absorption costing principles

	January to June 2010		July to Dec. 2010	
	TZS'000"	TZS'000'	TZS'000'	TZS'000'
Sales		540		360
Opening stock	100		160	
Production costs:				
Direct materials	108		36	
Direct labour	162		54	
Overhead	90		30	
	460		280	
Closing stock	(160)		(80)	
Cost of goods sold		(300)		200
Gross profit		240		160
Production overhead:				
(Over)/ Under absorption	(12)		12	
Selling costs	50		50	
Distribution costs	45		40	
Administration costs	80	(163)	80	
Net profit		**77**		**(22)**

Sales units	15,000	10,000
Production units	18,000	6,000

The members of the management team are concerned by the significance change in profitability between the two six-month periods. As management accountant, you have analysed the data upon which the above budget statement has been produced, with the following results.

- The production overhead cost comprises both a fixed and a variable element the latter appears to be dependent on the number of units produced. The fixed element of the cost is expected to incurred at a constant rate throughout the year
- The selling costs are fixed
- The distribution cost comprises both fixed and variable elements; the latter appears to be dependent on the number of units sold. The fixed element of the cost is expected to be incurred at a constant rate throughout the year.
- The administration costs are fixed

Required

(a) Present the above budgeted profit statement in marginal costing format
(b) Reconcile each of the six monthly profit/loss values respectively under marginal and absorption

Question 11
BM Limited is considering its plans for the year ended 31 December 2010. It makes and sells a single product, which has budgeted costs and selling price as follows:

	TZS
Selling price	45
Direct materials	11
Direct labour	8
Production overhead:	
Variable	4
Fixed	3
Selling overhead:	
Variable	5
Fixed	2
Administration overhead:	
Fixed	3

Fixed overhead cost per unit is based on a normal annual activity level of 96,000 units. These costs are expected to be incurred at a constant rate throughout the year.
Activity levels during January and February 2010 are expected to be:

	January (units)	February (units)
Sales	7,000	8,750
Production	8,000	7,750

Assume that there will be no stocks held on 1 January 2010
Required:
(a) Prepare in columnar format, profit statements for each of the two months of January and February 2010
  (i) Absorption costing
  (ii) Marginal costing
(b) Reconcile and explain the reasons for any differences between the marginal and absorption profits for each month which you have calculated in your answer to (a) above

Question 12

A company with a financial year 1 September to 31 August prepared a sales budget which resulted in the following cost structure:

		% of sales
Direct materials		32
Direct wages		18
Production overhead: variable		6
	Fixed	24
Administrative and selling costs: variable		3
	Fixed	7
Profit		10

After ten weeks, however, it became obvious that the sales budget was too optimistic and it has now been estimated that because of a reduction in sales volume, for the full year, sales will total TZS2 560 000 which is only 80% of the previously budgeted figure.

You are required to present a statement for management showing the amended sales and cost structure in TZSs and percentages, in a marginal costing format.

Question 13

ABC Company produces and sells one product only which sells for TZS50 per unit.
There were no inventories at the end of May and other information is as follows.

Standard cost per unit	TZS	
Direct material	18	
Direct wages	4	
Variable production overhead	3	
Budgeted and actual costs per month		
Fixed production overhead		99,000
Fixed selling expenses	14,000	
Fixed administration	26,000	
Variable selling expenses	10% of sales value	

Normal capacity is 11,000 units per month

The number of units produced and sold was

	June (units)	July (units)
Sales	12,800	11,000
Production	14,000	10,200

Question 14

A manufacturing company has two production cost centres (Departments A and B) and one service cost centre (Department C) in its factory.

A predetermined overhead absorption rate (to two decimal places of TZS) is established for each of the production cost centres on the basis of budgeted overheads and budgeted machine hours.

The overheads of each production cost centre comprise directly allocated costs and a share of the costs of the service cost centre.

Budgeted production overhead data for a period is as follows:

Department A	Department B	Department C	
Allocated costs	TZS 217,860	TZS 374,450	TZS 103,970
Apportioned costs	TZS 45,150	TZS 58,820	(TZS103,970)
Machine hours	13,730	16,110	
Direct labour hours	16,360	27,390	

Actual production overhead costs and activity for the same period are:

Department A	Department B	Department C	
Allocated costs	TZS219,917	TZS387,181	TZS103,254
Machine hours	13,672	6,953	
Direct labour hours	16,402	27,568	

70% of the actual costs of Department C are to be apportioned to production cost centres on the basis of actual machine hours worked and the remainder on the basis of actual direct labour hours.

Required:

(a) Establish the production overhead absorption rates for the period.

(b) Determine the under- or over-absorption of production overhead for the period in each production cost centre. (Show workings clearly)

Question 15

The following data has been extracted from the budgets and the standard costing profit statement of Malaika Ltd, company which manufactured and sells a single product

	TZS per unit
Selling price	45,000
Direct material cost	10,000
Direct wages cost	4,000
Variable overhead cost	2,500

Fixed production overhead costs are budgeted at TZS 400,000,000 per annum. Normal production levels are thought to 320,000 units per annum.

Budgeted selling and distribution costs are as follows

	TZS
Variable	1,500
Fixed	80,000,000 per annum

Budgeted administration costs are TZS 120,000,000

The following pattern of sales and production is expected during the first six months of year 20X5:

	1st Quarter	2nd Quarter
Sales (units)	60,000	90,000
Production (units)	70,000	100,000

There is no stock on 1st January 20X5

Required

(a) Prepare profit statements for each of the two quarters using

(i) Marginal costing

(ii) Absorption costing

(b) Reconcile the profits reported for the quarter January – March 20X5 in the answer to (a) above