

INSTITUTE OF MANAGEMENT TECHNOLOGY  
 Management Accounting and Control  
 Term - II, Batch: 2013-15, Section : ALL  
 End Term Examination

*Pyramus*

Closed Book  
 Time Allowed : 2 Hrs  
 Max Marks : 50

Note : Attempt all the Questions. Q 1 carries 20 Marks and rest all questions carry 10 Marks each.

Q1 To be pasted

QUESTION 1

Henderson Company produces two products, A and B. The segmented income statement for a typical quarter follows:

	Product A	Product B	Total
Sales	\$150,000	\$80,000	\$230,000
Less: Variable expenses	80,000	46,000	126,000
Contribution margin	\$70,000	\$34,000	\$104,000
Less: Direct fixed expenses*	20,000	2,000	22,000
Segment margin	\$50,000	(\$14,000)	\$36,000
Less: Common fixed expenses			\$16,000
Operating income			\$20,000

\* Includes depreciation

Product A uses a subassembly that is purchased from an external supplier for \$25 per unit. Each quarter, 2,000 subassemblies are purchased. All units produced are sold, and there are no ending inventories of subassemblies. Henderson is considering making the subassembly rather than buying it. Unit variable manufacturing costs are as follows:

Direct materials \$2  
 Direct labor 3  
 Variable overhead 2

Two alternatives exist to supply the productive capacity:

1. Lease the needed space and equipment at a cost of \$27,000 per quarter for the space and \$10,000 per quarter for a supervisor. No other fixed expenses are incurred.
2. Drop Product B. The equipment could be adapted with virtually no cost and the existing space utilized to produce the subassembly. The direct fixed expenses, including supervision, would be \$38,000, \$8,000 of which is depreciation on equipment. If Product B is dropped, the sales of Product A will not be affected.

Required

1. Should Henderson Company make or buy the subassembly? If it makes the subassembly, which alternative should be chosen? Explain and provide supporting computations.
2. Suppose that dropping B will decrease sales of A by 6 percent. What effect does this have on the decision?
3. Assume that dropping B decreases sales of A by 6 percent and that 2,800 subassemblies are required per quarter. As before, assume that there are no ending inventories of subassemblies and that all units produced are sold. Assume also that the per-unit sales price and variable costs are the same as in Requirement 1. Include the leasing alternative in your consideration. Now, what is the correct decision?

80000  
 14K  
 5.2K  
 10K

OK OK OK

Q2. The following information provides details of the costs, volume and cost drivers for a particular period in respect of ABC Ltd:

	<i>Product X</i>	<i>Product Y</i>	<i>Product Z</i>
1. Production and sales (units)	3000	2000	800
2. Raw material usage per unit	5 kg	5 kg	11 kg
3. Direct material price per kg	Rs 25	Rs 20	Rs 11
4. Direct labour hours per unit	8	12	6
5. Machine hours per unit	8	6	12
6. Direct labour cost per hour	Rs 80	Rs 120	Rs 60
7. Number of production set-ups	3	7	20
8. Number of deliveries	18	6	40
9. Number of material receipts	15	35	220
10. Number of product designs	15	10	25

Overhead costs	Rs.
Production Set-up	30000
Material receiving	86400
Packing for deliveries	44800
Product designing	75000
Machines related overhead	81000
Total	Rs 317,200

In the past the company has allocated overheads to products on the basis of direct labour hours. The management accountant has recently attended a seminar on activity-based costing, and the overhead costs for the last period have been analyzed by the major activities in order to compute activity-based costs.

From the above information you are required to:

- Compute the product costs using a traditional costing system based on the assumptions that all overheads are recovered on the basis of direct labour hours;
- Compute product costs using an activity-based costing system.
- Briefly explain the differences between the product cost computations in (a) and (b).



4.5

13) The budgeting process in Hallmark company begins several weeks before the start of the financial year. The sales budget for the company's main product XL10 has just been finalized and information has been collected to prepare other budgets. The company plans to sell 4,000 units of the product next year at a budgeted price of Rs. 500 per unit.

The standard materials and labour costs have been estimated as follows. Two materials - 8kg of material X and 4kg of material Y - are required per unit of product. The standard cost of material X is Rs. 12 per kg and the standard cost of material Y is Rs. 15 per kg. The standard labour time estimated is 3 hours per unit of product and the budgeted wage rate is Rs. 50 per hour.

Budgeted Production Overheads:  
 Variable production overhead Rs. 10 per labour hour  
 Fixed production overhead Rs. 90,000 per annum  
 Marketing and Administration costs budget Rs. 80,000 per annum

Opening Inventory:			
Raw material X	2,000 kg		
Raw material Y	3,000 kg		
Finished product	1,000 units		
Planned closing inventory:			
Raw material X	4,000 kg	8kg	4kg
Raw material Y	5,000 kg	4kg	2kg
Finished product	2,000 units		

Fixed production overheads are absorbed on the basis of direct labour hours.

Required: Using the above information, prepare the following budgets:

1. The sales budget
2. The production budget in units
3. Production costs budget (raw materials cost, direct labour cost and production overheads)
4. Cost of goods sold budget
5. The Master Budget in the form of a budgeted profit and loss account.

5

24) Write Short notes on any three of the following

- a) Target Costing
- b) Transfer Pricing
- c) Value Chain Analysis
- d) Variance Analysis



DM (50) - 1 (abcd)  
 DL (50)  
 Factory OH (50)  
 Total cost (abcd) at ...  
 COGS  
 Gross Profit  
 Net Profit

7

Q5 XYZ Ltd. has the following relevant information for the Year 2012 and Year 2013:

Standard Variable Costs per unit			
✓ Sales Price per unit			Rs. 6
Fixed Manufacturing Overhead (at Budgeted Capacity of 150,000 Units)			Rs. 10
Selling and Administrative Expenses (Fixed)			Rs. 300,000
			Rs. 200,000
✓ Production Volumes (in units):			
	Year	2012	
			170,000
	Year	2013	
			140,000
✓ Sales Volumes (in Units)			
	Year	2012	
			140,000
	Year	2013	
			160,000

There was no Inventory at the beginning of Year 2012.

- a) Prepare Income Statements for the two years under Absorption Costing and Marginal Costing.
- b) State the reason as to why there is a difference in Profits for the Year 2012 and the Year 2013, when Profits are calculated under Absorption Costing and Marginal Costing.

Veraprag  
 Anisou  
 by Anisou  
 20-11-2012  
 Max Time  
 Not



MID TERM EXAMINATION 2011, BATCH : 2011 -13, TERM -II  
 MANAGEMENT ACCOUNTING AND CONTROL

21/11/2011

D+E

Time allowed: 2 hours

Maximum marks: 30

All questions are compulsory.  
 Use of simple calculator is allowed.

*Pyramus.*

PART A

(Each question carry 6 marks.)

Question 1.

Answer the following:

- Martin purchased a vacant plot outside of Delhi for Rs 13,50,000, because he heard that a shopping mall was going to be built on the other side of the road. He figured that he could make a bundle by putting in a fast food outlet on the site. As it turned out, the rumor was false. A sanitary landfill was located on the other side of the road, and Martin's land was worthless. What type of cost is the Rs 13,50,000 that Martin paid for the vacant plot?
- The state Department of Education owns a computer system, which its employees use for word processing and keeping track of education statistics. The governor's office also recently began using this computer. As a result of the increased usage, the demands on the computer soon exceeded its capacity. The director of the Department of Education was soon forced to lease several personal computers to meet the computing needs of her employees. The annual cost of leasing the equipment is Rs 1,40,000. What type of cost is this?
- Suppose you paid Rs 600 for a ticket to see your university's football team compete in the bowl game. Someone offered you to buy ticket for Rs 1000, but you decided to go to the game. What did it really cost you to see the game? What type of cost is this?

*Variable*

Question 2.

Overlook Inn is a small bed - and - breakfast inn located in the Great Smoky Mountains of Tennessee. The charge is Rs 500 per person for one night's lodging and a full breakfast in the morning. The retired people who own and manage the inn estimate that the variable expense per person is Rs 200. This includes such expenses as food, maid service, and utilities. The inn's fixed expenses total Rs 4,20,000 per year. The inn can accommodate 10 guests each night.

Compute the following:

- Contribution margin per unit of service. (A unit of service is one night's lodging for one guest)
- Contribution margin ratio
- Annual Break even point in units of service and in dollars of service revenue
- The number of units of service required to earn a target net profit of Rs 6,00,000 for the year. (ignore income taxes)

Or

Fill in the missing data for each of the following independent cases. (Ignore income taxes)

	Sales revenue	Variable expenses	Total contribution margin	Fixed expenses	Net income	Break even sales revenue
1.	?	Rs 40,000	?	Rs 30,000	?	Rs 40,000
2.	Rs 80,000	?	Rs 15,000	?	?	Rs 80,000
3.	?	Rs 40,000	?	?	Rs 38,000	?
4.	Rs 1,10,000	Rs 22,000	?	?	Rs 38,000	?



(a) Intercontinental Chemical Co., located in Argentina, recently received an order for a product it does not normally produce. Since the company has excess production capacity, management is considering accepting the order. In analyzing the decision, the assistant controller is compiling the relevant costs of producing the order. Production of the special order would require 8000 kilograms of theolite. Intercontinental does not use theolite for its regular product, but the firm has 8000 kilograms of the chemical on hand from the days when it used theolite regularly. The theolite could be sold to a chemical wholesaler for 14500 peso. The book value of theolite is 2.00 peso per kilogram. Intercontinental could buy theolite for 2.40 peso per kilogram.

What is the relevant cost of theolite for the purpose of analyzing the special order decision?

(b) Intercontinental's special order also requires 1000 kilograms of genatope, a solid chemical regularly used in the company's products. The current stock of genatope is 8000 kilograms at a book value of 8.10 peso per kilogram. If the special order is accepted, the firm will be forced to restock genatope earlier than expected at a predicted cost of 8.70 peso per kilogram. Without the special order, the purchasing manager predicts that the price will be 8.30 peso when normal restocking takes place. Any order of genatope must be in the amount of 5000 kilograms.

What is the relevant cost of genatope? Discuss each of the figures in the question in terms of its relevance to the decision.

Or

Fair Engineering Company manufactures part QE767 used in several of its engine models. Monthly production costs for 10,000 units are as follows:

Direct materials	
Direct labor	\$ 80,000
Variable support costs	20,000
Fixed support costs	50,000
Total costs	<u>40,000</u>
	<u>\$190,000</u>

It is estimated that 20% of the fixed support costs assigned to part QE767 will no longer be incurred if the company purchases the part from the outside supplier. Fair Engineering Company has the option of purchasing the part from an outside supplier at \$16 per unit.

1. If Fair Engineering Company accepts the offer from the outside supplier, the monthly costs (costs that will no longer be incurred) total \_\_\_\_\_ avoidable
- \$ 32,000
  - \$ 82,000
  - \$ 158,000
  - \$ 190,000

2. If Fair Engineering Company purchases 10,000 QE767 parts from the outside supplier per month, then its monthly operating income will:
- increase by \$2,000
  - increase by \$30,000
  - decrease by \$16,000
  - decrease by \$58,000

3. The maximum price that Fair Engineering Company should be willing to pay the outside supplier for each unit of part QE767 is:
- \$10
  - \$15
  - \$15.80
  - \$16



## PART B

### CASE OF SEATTLE CONTEMPORARY THEATER

The Seattle Contemporary Theater was recently formed as a non-profit enterprise to revive contemporary drama to the city of Seattle. The organization has a part time, unpaid board of trustees comprising local professional people who are avid theater fans. The board has hired the following full time employees:

**Managing Director:** responsibilities include overall management of the organization; direction of six plays every year

**Artistic Director:** responsibilities include hiring of actors and production crews for each play; direction of six plays every year

**Business Manager and Producer:** responsibilities include managing the organization's business functions and ticket sales; direction of the production crews who handle staging, lighting, costuming and makeup.

The Board of directors have negotiated an agreement with the city of Seattle to hold performances in a historic theater owned by the city. The theater has not been used for 30 years, but the city has agreed to refurbish it and to provide lighting and sound equipment. In return, the city will receive a rental charge of \$ 10,000 per month plus \$ 8 for each theater ticket sold.

The theater's business manager and producer, Andrew Lloyd, has made the following projections for the first few years of operation:

Fixed expenses per month:	10,000
Theater rental .....	8,000
Employees' salaries and fringe benefits .....	15,000
Actor's wages .....	5,600
(to be supplemented with local voluntary talent)	
Production crew's wages .....	5,000
(to be supplemented with local volunteers)	
Playwrights' royalties for use of plays .....	1,000
Insurance .....	1,400
Utilities - fixed portion .....	800
Advertising and promotion .....	1,200
Administrative expenses .....	48,000
<b>Total .....</b>	<b>48,000</b>
 Variable expenses per ticket sold:	
City's charge for use of theater .....	8
Other miscellaneous expenses .....	2
<b>Total variable cost per ticket sold .....</b>	<b>10</b>
 Revenue:	
Price per ticket .....	16

Required:

1. How many tickets should the theater sell during the play's one month run so as to break even?
2. The Seattle Contemporary Theater building seats 450 people. The agreement with the city calls for 20 performances during each play's one month run. How do you analyse this situation vis-à-vis the break even level?
3. If the business manager expects every performance of each play to be sold out, what would be the organization's safety margin?

4. The Board of Trustees for Seattle Contemporary Theater would like to run free workshops and for young actors and aspiring playwrights. This program would cost \$ 3,600 per month in fixed expenses including teachers' salaries and rental of space at a local college. No variable expenses would be additionally incurred. If the theater could make a profit of \$ 3,600 per month on its performances, the Seattle Drama Workshop could be opened. Determine how many theater tickets must be sold during each play's one month run to make the desired profit?
5. The business manager is concerned that the estimate of the fixed utility expenses of \$ 1,400 is too low. What would happen to the break even point if fixed utilities expenses prove to be \$ 2,600 instead?
6. Non profit organizations often receive cash donations from people or organizations desiring to support a worthy cause. Various people pledge donations to Seattle's Contemporary Theater amounting to \$ 6,000 per month. What effect will it have on the break even point?

(12 marks)



Dr. Ashish Verma

07/12/2011

Term Examination

Executive Batch

Dec 2011.

Closed Book

Time allowed 1 hr 30 minutes.

Max Marks: 20

Instructions:

1. Read the case study "Dumbellow" and answer the question at the end of the case. (16 marks)

2. Write short notes on (any 2) of the following: (4 marks)

a. Product cost, Periodic cost and Opportunity Cost

b. Cost Pool, Cost Drivers, Cost Driver Rates.

c. Relevant Costs.

Dumbellow Ltd  
 Stan Brignall, Aston Business School

The Board of Dumbellow Ltd are meeting on the 23rd January to discuss the draft budget for 2000/1, some two months before the start of that year. The company produces three industrial valves which are incorporated into equipment used in the Oil and Gas industry. The draft income statement is as follows:

	Product X £k	Product Y £k	Product Z £k	Total £k
Sales				
100k units at £15				
80k units at £25	1500			
120k units at £10				
Materials		2000		
Labour	300	400	1200	4700
Overheads	700	800	480	1180
	225	360	750	2250
Profit/(Loss)	1225	1560	330	915
	275	440	(360)	4345
				355

The Board are unhappy with this planned outcome in two respects: they had hoped for a total profit of at least £400k to meet their required 20% return on capital, and they are unhappy about the further deterioration of Product Z, their oldest product, which on current plans would move from being marginally unprofitable this year to highly unprofitable next.

Responses to the situation varied. Paul Burns, the recently-appointed Financial Controller who compiled the budget, thought that the best response would be to stop making product Z. He argued, 'Knowing the unsatisfactory results this budget contains, I took the liberty of doing some rough calculations before coming to this meeting. If we drop Z we can eliminate the fixed labour costs associated with it of £90k and sell the machinery specifically associated with it which, being old, is now fully-written off but would probably fetch £5k. There will, however, be redundancy costs which I estimate at £50k.'

Arthur Mitchell, the Production manager and oldest member of the management team, was outraged. He said, 'That's typical of you accountants. We've been making Z since the firm started twenty years ago and it still has steady sales. Also, some of the blokes making it have been with the company a long time. You knew what the situation looked like: why didn't you tell me before the meeting? Can't you have a bit of time to look for ways of saving costs on the production line?' Paul Burns sneeringly replied, 'If you can do that, why haven't you done so before? I offered to help you look at your costs when I arrived last year, but when I proposed investigating the merits of Activity Based Costing you said you had no time to waste on such nonsense. You can't blame me for not consulting you!'

At this point Bob Berry, the Marketing manager, roused himself and smoothly announced, 'There's no need for you two to bicker like this. I think the sales position would encourage us to lower the price of Z by £1 per unit which I think would raise demand by 25%. If Arthur can save that £1 per unit in variable production costs somehow, why don't we try that combination?'

Ben Kates, the Managing Director, now intervened. 'I'd like to compare the effects of adopting Bob's suggestion versus Paul's. Arthur, would you also like to take a little time to think how best you might re-organise production so as to improve matters, and pass your thoughts to Paul for him to turn into financial figures. And, Paul, I'd like you to try seeing what a simple 10% increase in sales and activity across the board would do, holding prices and everything else constant. After all, we have got a fair bit of spare capacity, haven't we Arthur?' The meeting broke-up at this point, having agreed to proceed



TUESDAYS WITH MARRY  
FIVE PEOPLE YOU  
MEET IN

The next day Arthur Mitchell phoned Paul's office and, having ascertained that he was in, went over to see him. 'I've done some thinking, and I think we could cut labour supervision on Product Z which would reduce labour fixed costs by £75k but increase the variable overhead element by 10%. We could also substitute a cheaper component for Z which would save 75 per unit. Can you please try that and see what it looks like?' Paul replied, 'If I must, but I don't suppose it will do any good.'

Before starting his work on revising the budget, Paul reviewed in his mind the following information used in compiling the original budget:

- 1) all material costs are fully variable
- 2) the fixed element of labour cost for X, Y and Z is £100k, £160k and £90k respectively
- 3) the overheads are mixed costs. The fixed element has been absorbed at the rate of £5 per machine hour irrespective of the machines used. The machine time per unit of each of the products is:

X            15 minutes

Y            30 minutes

Z            15 minutes

A week later the Dumbellow Board reconvened to look at the revised budget calculations

Required

Write a report to Dumbellow's Board setting out appropriate calculations and making your recommendation as to which course to follow.