

Management Accountancy  
Course Part Examination  
G-I-P-1-Management Accounting &  
Decision Making

MAY 2010

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Roll No.....

Total No. of Questions—5]

[Total No. of Printed Pages—6

Time Allowed—3 Hours

Maximum Marks—100

**DLF**

Answer all questions.

All questions carries equal marks.

Marks

1. P, Q, R and S are the four types of products that appear in the price-list of a company with a note that a particular item or items may not be available on demand. The demand for the products is more than what the company can supply and non-supply of any of them will have no effect on the demand for the rest.

For the calendar year 2011, the company has made the following tentative budget that will use up all the available supplies of materials and labour in that year.

A linear programming was made by the company's accountant who stated that the opportunity costs or the shadow prices came to Rs. 2.50 per labour hour and Rs. 16.25 per kg. of material. He also suggested the product-mix which has since been forgotten. The accountant has left the company. The company now asks you as their Management Consultant to give your opinion about the budgeted program.

Data from Tentative budget for 2011 :

Products	P	Q	R	S
Productions/Sales units	1,000	1,200	1,600	800
Selling price per unit (Rs.)	100	130	120	150
Variable cost per unit (Rs.)	60	80	50	70
Labour hours per unit	3	4	2	5
Material usage per unit (kg.)	2	3	4	5

**DLF**

P. T. O.

( 2 )

**DLF**

Marks

- (a) Determine the optimal Sales mix for the company. 15+5  
=20
- (b) What difference the Sales mix in (a) will make from that in the Tentative budget in respect of contribution ?

2. A company with two production departments has set the following standards for the forthcoming year :

	Departments	
	S	W
Direct labour hours available per period	6,000	4,000
Standard wage rate per hour	Rs. 6	Rs. 5
Expected learning curve	80%	70%
Standard variable overheads per hour	Rs. 9	Rs. 5
Standard fixed overheads per hour	Rs. 12	Rs. 8
Direct labour hours required for first 100 units	18	9

The direct materials are introduced in Department S. The company is able to negotiate the following prices for purchase of direct materials during the year.

Level of output (units)	Price of direct materials per unit of output
100	Rs. 72.00
200	Rs. 64.80
800	Rs. 54.00

Overtime, if required, is paid at time and a half. The overhead rates as given above does not include overtime premium.

It is the policy of the company to add profit margin as under in quoting the prices :

Department	Percentage on total labour & overhead cost
S	25%
W	15%
Subcontracted work	5% on subcontract price

**DLF**

The company has received a special order. Special tooling costs of the order amount to Rs. 1,200. If this order is for 200 units or less, it will be executed in the period which has a workload of 3,840 direct labour hours in Department S and 2,100 direct labour hours in Department W. For the work which is done in Department W, a subcontract price of Rs. 50 per unit is quoted by an associate company.

Required :

- (i) If the company decides to get the work executed entirely within the company, what price, on cost plus basis, should be quoted for the order, if it consists of —
- 100 units
- 200 units ?
- (ii) Assuming that the initial order placed by the customer is for 200 units, what lowest price should be quoted for a repeat order of 600 units ? Assume that this order will be executed when there are no capacity constraints.
- (iii) State the output level at which the company should close down Department W to get the work executed through subcontractors.
3. Neel Ltd. is considering a new product with three-year life. The product can be made with existing machinery which has spare capacity or by a labour saving specialized new machine which would have zero disposal value at the end of 3 years.

The following estimate have been made at Current price :

Sales volume	10 lakh units per year
Selling price	Rs. 150 per unit
Labour cost (without new machine)	Rs. 60 per unit
Material cost	Rs. 20 per unit
Variable overheads	Rs. 20 per unit

Additional fixed overheads for the new product are estimated to be Rs. 3 crores per year. The new machine would cost Rs. 5 crores and would cut labour costs by 50% per unit. Because of competition, increase in selling price per year will be only 2%. Increase in labour cost will be 12% p.a. and all other costs 8% p.a.

The company's cost of capital is 15% and apart from the cost of the machine, all cash flows can be assumed to arise at year-ends.

Give your recommendation, calculating NPV of the new product with existing machine and new machine.

Given : Discount factor @ 15% :

Year	1	2	3
Discount factor	0.87	0.76	0.66

4. Indigo Fabricators Ltd. have procured an order from the Railways for supply of 2,40,000 pieces of metal case-bonds of a special design. The supply is to be completed in not more than 12 months at the rate of 20,000 to 25,000 pieces per month at a price of Rs. 75 per piece with a bonus/penalty of Rs. 2.75 per piece for supplies in excess/short of 20,000 pieces per month. 20

It has promptly purchased a special purpose machine with capacity to produce 20,000  $\pm$  5% pieces per month. The machine which has cost Rs. 2 lakhs is expected to fetch a residual value of Rs. 50,000 on completion of the contract job. The cost details of the piece are estimated as follows :

Material	(Rs./unit)	50.00
Labour	(Rs./unit)	5.00
Variable production overheads—40% of labour	(Rs./unit)	2.00
Variable selling overhead	(Rs./unit)	0.25
Fixed production and selling/delivery expenses	(Total)	Rs. 3 lakhs

A week before starting the job the suppliers of machine offer an advanced version of the same capable of 20% more output per hour. There will however be a material

loss of 0.5%. This new machine costs Rs. 3 lakhs with no residual value. The supplier has agreed to take back the original machine for Rs. 1.50 lakhs. Fixed cost, by way of maintenance will increase by Rs. 1,000 per month. Entire job can be completed in 10 months.

Advise whether they should go in for the improved model of the special purpose machine.

5. Fancy Apple Mart specialises in gift packs of Apples. Each pack consists 100 numbers. It employs 5 labourers in its mart and each of them works for 8 hours a day and 25 days in a month. The general fixed cost per month works out to Rs. 30,000. The Mart obtains a special order for 250 gift packs each pack consisting 50 red apples, 30 green apples, 20 yellow apples and a gift box. The mart normally sells the gift pack at a profit of 10% on the selling price.

Fancy Mart provides the following information :

Apple and Gift Box	Stock on hand Qty. (Numbers)	Actual Purchase Price per Apple Rs.	Current Market Price per Apple Rs.
Red	15,000	20	25
Green	5,000	16	18
Yellow	6,000	30	40
Light Red	5,000	20	(Salevage values)
Gift Box	500	20	20

Red, Green and Yellow Apples are regularly used by the mart in the normal course of business. The stock of Light Red Apples represent purchases of another order which was cancelled. They can be substituted for Red Apples without any objection from the purchaser. Otherwise with no alternative use they can be

sold in the market for Rs. 20,000. The Gift boxes on stock were procured for an earlier order and are in excess. They can be readily sold in the market for 50% of its value.

Each Gift pack would require 30 minutes of labour. The current cost of labour is Rs. 400 per hour. The mart estimates that it will have 50 hours as idle time when the special order is carried out. Variable overheads are 50% of labour cost.

You are Required :

- (a) To compute the minimum price per Gift pack assuming the special order is a one time order.
- (b) Would your answer to Part 'a' differ, if the orders are continuous ?