



September 09, 2006

## COST ACCOUNTING

(MARKS 100)

### Module D

(3 hours)

- Q.1 Hi-way Engineering Limited uses budgeted overhead rate for applying overhead to production orders on a direct labour cost basis for department A and on a machine hour basis in department B.

The company made the following forecasts for August 2006:

	Dept A	Dept B
Budgeted factory overhead (Rs.)	216,000	225,000
Budgeted direct labour cost (Rs.)	192,000	52,500
Budgeted machine hours	500	10,000

During the month, 50 units were produced in Job no. CNG-011. The job cost sheet for the month depicts the following information:

	Dept A	Dept B
Material issued (Rs.)	1,500	2,250
Direct labour cost (Rs.)	1,800	1,250
Machine hours	60	150

Actual data for the month were as follows:

	Dept A	Dept B
Factory overhead (Rs.)	240,000	207,000
Direct labour cost (Rs.)	222,000	50,000
Machine hours	400	9,000

#### Required:

- (a) Compute predetermined overhead rates for each department. (02)
- (b) Work out the total costs and unit cost of Job no. CNG-011. (04)
- (c) Compute the over / under applied overhead for each department. (02)
- Q.2 (a) Optimum inventory level can only be determined after comparing the holding costs with the cost of ordering.
- Required:**
- (i) Briefly discuss the impact of holding and ordering costs on optimum inventory level. (03)
- (ii) Give three examples of costs which fall under each category. (03)
- (iii) What are the problems which may arise in determining the above costs? (02)
- (b) Two-way Engineering Limited has been experiencing stockouts on one of its important product RD-11. Using the EOQ formula, the company places orders of 1,250 units whenever the stock level reduces to 1500 units. The records of the company show the following data relating to the usage of Product RD-11 during lead times:

<b>Usage (Units)</b>	1,800	1,600	1,400	1,200	1,000
<b>Usage Probability (%)</b>	4	6	10	20	60

The company sells RD-11 at a price of Rs. 500 per unit. The annual carrying cost of one unit is Rs. 30. The company estimates that the cost of being out of stock is Rs. 125 for each unit.

**Required:**

The management of the company asks you to establish an optimal safety stock for this material and also ascertain the probability of being out of stock on your proposed safety stock level.

(10)

- Q.3 Tram-way Hardware Store has been owned by Mr. Petrol. He had himself made all investment in the business and had not obtained any financing. He appointed a junior accountant to maintain the manual accounting records. During the month of August, he asked his accountant to provide certain information including estimates as he was planning to withdraw some amount for his personal use.

After the failure of his accountant to provide the required information, he has hired your services for this purpose. You have gathered the following information from the records:

- (i) Sales for August 2006 amounted to Rs. 5,000,000.
- (ii) Sales forecast for the next three months was as follows:

	<b>Rs.</b>
September	6,000,000
October	5,000,000
November	5,500,000

- (iii) Based on past experience, collections are expected to be 56 percent in the month of sale and 43 percent in the month following the sale. One percent remains uncollected
- (iv) Gross margin on sales is 20% and cost of goods sold comprises of purchase cost only.
- (v) 80 percent of the goods are purchased in the month prior to the month of sale and 20 percent are purchased in the month of sale. Payment for goods is made in the month following the purchase.
- (vi) Other monthly recurring expenses which are paid in cash amount to Rs. 40,700.
- (vii) Annual depreciation on fixed assets is Rs. 555,600.
- (viii) Annual staff salaries are budgeted at Rs. 600,000.
- (viii) Bad debts provision as at August 31, 2006 stands at Rs. 190,400.
- (ix) Balances of some other accounts as at August 31, 2006 are as follows:

	<b>Rs.</b>
Fixed assets	9,940,000
Acc. depreciation	1,900,500
Owner's capital	2,800,000
Profit and loss	8,380,000
Cash and bank	1,980,940

**Required:**

- (a) Prepare a balance sheet as at August 31, 2006. (06)
- (b) Calculate the projected balance in accounts payable as on September 30, 2006. (02)
- (c) Prepare a projected income statement for the month of September 2006. (03)

- Q.4 One-way Limited is engaged in manufacturing and sale of socks. The sales of the company are mostly to USA and European Countries. At the end of the first quarter, the results of operations of the company are as follows:

	Rs.
Sales (Rs. 40 per unit)	5,300,000
Less: Material	1,987,500
Wages	795,000
Variable overhead	397,500
Fixed overhead	848,000
	4,028,000
Gross profit	1,272,000

The factory was working at 40% capacity in the first quarter. Management of the company has estimated that the quantity sold could be doubled next quarter if the selling price was reduced by 15%. The variable costs per unit will remain the same, but certain administrative changes to cope with the additional volume of work would increase the fixed overhead by Rs. 15,000.

**Required:**

- (a) Evaluate the management's proposal. (05)
- (b) What quantity would need to be sold next quarter in order to yield a profit of Rs. 2,000,000 if the selling price was reduced as proposed, variable cost per unit remains the same and fixed overheads increased as estimated above? (02)
- (c) Calculate the selling price needed to achieve a profit of Rs. 2,000,000 if the quantity sold last quarter cannot be increased, material prices increase by 12%, wage rates increased by 15%, variable overheads are higher by 10% and fixed overheads increase by Rs. 15,000. (04)

- Q.5 Mid-way Services Limited received an urgent order for installation of 4 machines in a textile mill. Immediately after receiving the order, the company deputed four engineers on the job. Each engineer was responsible for installation of one machine. The standard time to complete this job was 50 hours.

It is the policy of the company to pay its engineers on job to job basis. The minimum amount the company pays is based on standard hours. The payment is made at the rate of Rs. 100 per hour.

In order to speed up the installation work, the company offered the engineers 'Time Saving Bonus' (TSB) under which they would be entitled for the following incentives:

Percentages of time saved to time allowed	TSB
0% to 10%	10% of time saved x hourly rate
11% to 20%	20% of time saved x hourly rate
20% to 30%	30% of time saved x hourly rate

In addition to the agreed amount, the customer has agreed to pay the company Rs. 150 for every hour saved on installation of each machine.

The jobs were completed successfully and the time spent by each engineer is as follows:

Engineers	A	B	C	D
Hours spent	41	36	46	50

**Required:**

- (i) Calculate the total earning of each engineer and their earning per hour. (08)  
 (ii) Compute the net additional revenue earned by the company. (03)

Q.6 Broad-way Manufacturing Limited produces two products DL-1 & DL-2. The production involves two processes, I and II. The following data is available in respect of production during the month of August 2006.

	Process I Rs.	Process II Rs.
Material issued	375,000	100,000
Direct wages paid	150,000	200,000
Direct expenses incurred	100,000	100,000

During the month of August, materials issued to Process I and Process II were 1,250 tons and 230 tons respectively. The cost of output of Process – I is charged to Process – II. Incidental to production, two by-products i.e. PT-1 and PT-2 are generated in the first process and treated as a credit to Process-I.

Following additional information is also available:

Product	Sales		Packing Cost
	Tons	Rs.	
DL-1	100	600,700	20,070
DL-2	900	1,203,500	100,350
PT-1	200	10,000	-
PT-2	50	2,500	-

A shortfall occurs in Process II due to evaporation which is considered as normal loss. There were no opening or closing stocks.

**Required:**

- (a) Calculate joint processing costs and apportion them between DL-1 and DL-2 on the basis of sales value. (08)  
 (b) Prepare summary trading account for the month showing net profit of each product. (02)

Q.7 Run-way Pakistan Limited has provided you the following information about its sales, production, inventory and variable/ fixed costs etc. for the second quarter of the year 2006.

	Rupees
Sales	75,000,000
Operating profit	5,171,100
Variable manufacturing costs per unit	10
Fixed factory overhead per unit	11
Marketing & administrative expenses (Fixed Rs. 250,000)	450,000

	Units
Sales	3,000,000
Actual production	2,420,100
Budgeted production	3,000,000
Ending inventory	320,200
Normal capacity	3,500,000
Production in quarter – I	3,100,150
Sales in quarter – I	2,200,050

The Sales Manager claims that the operating profit of the quarter has been wrongly calculated and is much higher than Rs. 5,171,100.

It is the policy of the company to compute applied factory overhead on the basis of quarterly budgeted production volume and charge over or under applied factory overhead to the cost of goods sold account at the end of each quarter.

**Required:**

- (a) You are required to prepare income statements under the present method being used by the company and also under marginal costing method for the satisfaction of Sales Manager. (09)
- (b) Reconcile the difference in operating profit under the two methods. (04)

Q.8 Sub-way Furnishers (Pvt.) Limited manufactures three garden furniture products – Chairs, Benches and Tables. The budgeted data of each of these items is as under:

	<b>Chairs</b>	<b>Benches</b>	<b>Tables</b>
Budgeted sales volume	4,000	2,000	1,500
Selling price per unit (Rs.)	3,000	7,500	7,200
Cost of Timber per unit (Rs.)	750	2,250	1,800
Direct labour per unit (Rs.)	600	1,500	1,600
Variable overhead per unit (Rs.)	450	1,125	1,200
Fixed overhead per unit (Rs.)	675	844	1,350

The budgeted volume was worked out by the sales department and the management of the company is of the view that the budgeted volume is achievable and equal to the demand in the market.

The fixed overheads are allocated to the three products on the basis of direct labour hours. Production department has provided the following information:

Direct labour rate	Rs. 40 per hour
Cost of timber	Rs. 300 per cubic meter

A memo from Purchase Manager advises that because of the problem with the supplier only 25,000 cubic meters of timber shall be available.

The Sales Director has already accepted an order for the following quantities which if not supplies would incur a financial penalty of Rs. 200,000.

Chairs	500
Benches	100
Tables	150

These quantities are included in the overall budgeted volume.

**Required:**

Work out the optimum production plan and calculate the expected profit that would arise on achievement of this plan. (14)

Q.9 Smart-ways Manufacturing Limited makes a product called LPG. Most of the manufacturing expenses incurred during the production of LPG are directly identifiable as fixed or variable. However, some of the expenses are partly fixed and partly variable. The management of the company wants to determine the fixed and variable element of these overheads.

(6)

The total of such overheads which are partly fixed and partly variable, during each of the last 10 months and the related production is given hereunder:

Month	No. of Units	Factory Overhead (Rs.)
1	3,000	7,200
2	4,000	9,000
3	6,000	12,150
4	5,000	11,250
5	6,000	11,700
6	5,000	10,800
7	7,000	12,600
8	6,000	11,250
9	5,000	10,350
10	3,000	7,200
	<b>50,000</b>	<b>103,500</b>

**Required:**

Determine the fixed and variable element of the above overheads on the basis of high low method and define the relationship in terms of cost volume formula.

(04)

(THE END)