THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Final Examinations Summer 2008

June 3, 2008

MANAGEMENT ACCOUNTING

(MARKS 100)
(3 hours)

Q.1 Azmat Industries is engaged in manufacturing two products, X and Y. Both the products have a high demand but the company is facing a liquidity crunch. In view of the liberal credit policy being followed by the company the Finance Director is of the opinion that sales of only Rs. 200 million can be financed through the present resources. However, a credit facility of Rs. 25 million can be obtained from local market at a mark-up of 16%. If this facility is obtained for the whole year, the company will be in a position to increase its sale to Rs. 260 million.

The following data is available for the year ended June 30, 2008:

	X	Y
Direct materials per unit – Rs.	300	700
Direct labour per unit – Rs.	180	150
Variable overheads per unit – Rs.	160	180
Selling price per unit – Rs.	900	1,200
Production per machine hour	8	6

The Marketing Director has informed that he has already made commitments for the supply of 40,000 units of X and 96,000 units of Y. Total available machine hours are 34,000.

Required:

(a) Calculate the maximum profit the company can achieve if the sale is restricted to Rs. 200 million.

(b) Determine whether it would be feasible for the company to obtain the credit facility. **(14)**

Q.2 Yousuf Aziz & Company has achieved significant growth over the years. The Company is negotiating a working capital loan to finance its fast growing operations. For determining the working capital requirement, the finance manager has collected the following data for the current financial year which has just commenced:

(i) The sales will increase by 25% over the previous year's sales of Rs. 1.0 billion. Local sales were 60% of total sales last year. The volume of local sales will increase by 10% whereas prices will increase by 15% on the average. The remaining growth will come from exports, all of which will be volume driven.

(ii) Cash sales to local customers will be approximately Rs. 100 million. Credit terms for local sales are 2/10 and 1/20. It is estimated that total discounts to the customers will amount to Rs. 6 million. The value of sales on which 2% discount will be claimed shall be twice the value on which 1% discount will be claimed. The remaining customers will take about 30 days to make the payments. Bad debts are expected to be 2% of credit sale.

(iii) Export proceeds will be recovered on an average of 30 days.

(iv) Raw materials A, B and C are used in the ratio of 3:2:1 respectively. Last year, the raw material cost was 48% of sales. Average price of each of the raw materials is expected to increase by 5%. Opening stocks this year were equal to one month's consumption of the previous year and are expected to follow the same trend.

(v) The suppliers of A and B allow credit periods of 30 and 45 days respectively whereas 50% cash payment has to be made while placing order for C and the balance at the time of delivery which is 15 days after the order.

(vi) Finished goods stock equal to one month's sale, is maintained by the company.

(vii) During the previous year, labour, factory overheads and other administrative overheads were 15%, 10% and 8% of sales value respectively but are expected to be 16%, 12% and 10% this year. On an average, these are paid 15 days in arrears.

Required:
Assuming that all transactions are evenly distributed over the year (360 days), determine the working capital at the end of the year. **(15)**

Q.3 (a) GH Scientific Corporation is assessing the possibility of introducing a new product. The Incharge of production is confident that the product will be successful. However, the marketing department is apprehensive of the high cost of production and has advised that an in-depth market research should be carried out before launching the product. The cost of initial launch of the product is estimated at Rs. 500 million whereas the cost of carrying out the market research shall be Rs. 100 million.

The company's research analysts have developed the following estimates:

(i) If the company starts production without carrying out market research, there is a 40% probability that it will earn a profit of Rs. 2 billion from the product, 35% probability of earning Rs. 1.2 billion and 25% probability of incurring a loss of Rs. 200 million.

(ii) If the company decides to carry out the research there is a 60% probability that it will find the product feasible.

(iii) If the product is found feasible the chances of profitability are as follows:

Profit of Rs. 2.8 billion	70%
Profit of Rs. 800 million	30%

(iv) If the product is not found feasible the profitability estimates are as follows:

Profit of Rs. 700 million	20%
Loss of Rs. 400 million	80%

Required:
(a) Draw a decision tree to depict the above possibilities. **(07)**
(b) Determine whether the company should carry out the research or not. **(03)**

(b) ABC Limited manufactures heavy equipments for use in various industries. It has recently developed and supplied eight units of a special equipment to an important customer. It took about 5,000 hours to build the first unit but thereafter a learning curve of 80% has taken effect which is expected to continue for the next 56 units.

Direct labour cost is Rs. 100 per hour. Cost of direct material is Rs. 400,000 per unit and variable overheads are estimated at Rs. 80 per direct labour hour.

Required:
A new customer has placed an order for eight units of equipment. Determine the price that the company may charge to earn a profit of 20% of sales. **(06)**

Q.4 Nihal Limited manufactures a single product and uses a standard costing system. Due to a technical fault, some of the accounting data has been lost and it will take sometime before the issue is resolved. The management needs certain information urgently. It has been able to collect the following data from the available records, relating to the year ended March 31, 2008:

(i) The following variances have been ascertained:

	Rs.
Adverse selling price variance	24,250,000
Favourable sales volume variance	2,000,000
Adverse material price variance – X	2,295,000
Favourable material price variance – Y	2,703,000
Favourable material price variance – Z	3,799,500

- The overall material yield variance is nil but consumption of X is 10% below the budgeted quantity whereas consumption of Y is 6% in excess of the budgeted quantity
- Labour rate variance is nil.

(ii) The budgeted sale price of Rs. 100 was 5.26% higher than actual sale price.

(iii) The standard cost data per unit of finished product is as follows:

	No. of kgs	Standard Cost	Total Cost
X	5	3.00	15.00
Y	10	2.00	20.00
Z	15	1.80	27.00

(iv) During the year, the finished goods inventory increased by 230,000 units whereas there was no change in the inventory levels of the raw materials.

(v) Labour costs are related to the consumption of raw materials and the standard rates are as follows:

	Re. (per kg)
Skilled labour for handling material X	1.00
Semi-skilled labour for handling material Y	0.75
Unskilled labour for handling material Z	0.10

Required:
(a) Total actual cost of each raw material consumed
(b) Material mix variance.
(c) Labour Cost Variance. **(20)**

Q.5 Ibrahim Industrial Company produces custom made machine tools for various industries. The prices are quoted by adding 50% mark-up on the cost of production which includes direct material, direct labour and variable factory overheads. The mark-up is intended to cover the non-manufacturing overheads and earn a profit. Factory overheads are allocated on the basis of direct labour hours.

The management has been using this system for many years but recent experiences have shown that some customers have been dissatisfied with the prices quoted by the company and have moved to other manufacturers. The CEO was seriously concerned when KSL, a major client showed its concerns on the prices quoted by the company and has asked the management accountant to carry out a critical evaluation of the costing and pricing system.

The management accountant has devised an activity based costing system consisting of four activity centres. The related information is as follows:

	Activity Centre	Basis of Allocation	Budgeted Activity level
Activity 1	Manufacturing	Direct labour hours	72,000 hours
Activity 2	Customer Service	No. of days to complete the order	120 order days
Activity 3	Order Processing	Number of orders	20 orders
Activity 4	Warehousing	Cost of Direct material	Direct materials usage of Rs. 40 million

The budgeted costs for the period are given below:

Description	Amount (Rs.)
Direct material	40,000,000
Direct labour	18,000,000
Indirect labour	7,200,000
Other manufacturing overheads	9,000,000
Quality control	1,500,000
Administrative salaries	3,000,000
Transportation	1,260,000
	79,960,000

On the basis of a careful study, the distribution of costs to activity centres has been recommended on the following basis:

	Activity 1	Activity 2	Activity 3	Activity 4	Not allocated	Total
Indirect labour	60%	20%	NIL	20%	NIL	100%
Machine-related Costs	95%	NIL	NIL	05%	NIL	100%
Quality control	60%	40%	NIL	NIL	NIL	100%
Transportation	10%	70%	NIL	20%	NIL	100%
Administrative salaries	NIL	NIL	20%	25%	55%	100%

The data related to the order placed by KSL is as under:

Estimated direct material cost (Rs.)	3,000,000
Direct labour (hours)	6,000
No. of days to complete the order	10

Required:

(a) Calculate activity cost driver rates for each of the above activities.

(b) Compute the amount of discount that can be offered to KSL on the price that has been quoted to them, if the Activity Based Costing system is used and the management wants to earn a minimum contribution margin of 20% of the quoted price. **(15)**

Q.6 Kamran Limited (KL) produces a variety of electrical appliances for industrial as well as domestic use. The average life of the equipments is six years. According to the terms of sale, the company has to provide free after sales service, including parts, during the warranty period of one year. Thereafter, the services are provided at market rates. The company has hired Ahmed Hasan Associates (AHA) to provide these services on the following terms and conditions:

- The material required for repairs carried out during the warranty period is provided by KL. For customers whose warranty period has expired, the material supplied to AHA is billed at cost plus a mark-up of 15%.

- Labour and overheads incurred by AHA on services provided during the warranty period are billed to KL at cost plus 30%.
- KL gets a share in all amounts billed to the customers after the warranty period. 10% share is received in respect of amounts billed to industrial customers and 15% in case of domestic customers.

The management of KL is evaluating the possibility of providing the services directly instead of outsourcing them to AHA. On the instruction of the CEO the management accountant has compiled the following information in respect of the previous year:

- 20% of the services were provided to domestic customers and 80% to industrial customers.
- 20% of all services were provided during the warranty period.
- Mark-up billed to AHA amounted to Rs. 360,000.
- An amount of Rs. 990,000 was received from AHA being the KL's share of amount billed to the customers.
- It has been estimated that the cost of material billed by AHA, to the customers, is determined by applying a further mark-up of 25% over the amount billed by KL. The service charges are billed at 50% above the cost of labour and variable overheads.
- It is estimated that the cost of labour and variable overheads will increase by 10%, if the services are provided by KL. However, KL will not be able to pass on this increase to the customers. Moreover, a supervisor will have to be appointed to oversee the process, at a consolidated salary of Rs. 40,000 per month. Other fixed overheads will also increase by Rs. 60,000 per month.

Required:

(a) Compare the two options and determine whether KL should terminate the contract with AHA and start providing the services itself. **(17)**

(b) What other qualitative factors should KL consider before taking a final decision? **(03)**

(THE END)