THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Intermediate Examinations Autumn 2007

September 07, 2007

COST ACCOUNTING (MARKS 100)

Module D (3 hours)

Q.1 Binary Limited manufactures three joint products viz. Aay, Bee and Cee in one common process. Following this process, product Aay and Bee are sold immediately while product Cee is subjected to further processing. Following information is available for the period ended June 30, 2007:

(i)

	Aay	**Bee**	**Cee**
Opening stock in kg	Nil	Nil	Nil
Production in kg	335,000	295,000	134,000
Sales in kg	285,000	212,000	-
Sales price per kg (Rs.)	30.85	40.38	-

(ii) Total costs of production were Rs 17,915,800.

(iii) 128,000 kg of Cee were further processed during the period and converted into 96,000 kg of Zee. The additional cost of further processing were as follows:

Direct labour	Rs. 558,500
Production overhead	Rs. 244,700

(iv) 94,000 kg of Zee was sold during the period, with total revenue of Rs. 3,003,300. Opening stock of Zee was 8,000 kg, valued at Rs 172,800. FIFO method is used for pricing transfers of Zee to cost of sales.

(v) 8,000 kg of a bye-product Vee was also produced during further processing and sold @ Rs. 10 per kg. Sales proceeds of bye-product are adjusted against production cost of product Zee.

(vi) The cost of production is apportioned among Aay, Bee and Cee on the basis of weight of output.

(vii) Selling and administration costs of Rs. 2,500,000 were incurred during the period. These are allocated to all the main products based on sales value.

Required:
Prepare a profit and loss account for the period, identifying separately the profitability of each of the three main products. **(19)**

Q.2 Hexa (Private) Limited is engaged in the supply of a specialized tool used in the automobile industry. Presently, the company is incurring high cost on ordering and storage of inventory. The procurement department has tried different order levels but has not been able to satisfy the management.

The Chief Financial Officer has asked you to evaluate the current situation. He has provided you the following information:

(i) The annual usage of inventory is approximately 8,000 cartons. The supplier does not accept orders of less than 800 cartons. The cost of each carton is Rs. 2,186.

(ii) The average cost of placing an order is estimated at Rs 14,000 and presently two orders are placed in each quarter.

(iii) The sales are made on a regular basis and on average, half of the quantity ordered is held in inventory. The cost of storage is considered to be 16% of the value of inventory.

Required:

(a) Determine the following:
- Economic Order Quantity (EOQ).
- Number of orders to be placed, based on EOQ.

(b) Compute the ordering costs and storage costs in the existing situation. How much cost can be saved if quantity ordered is equal to EOQ as determined in (a) above. **(10)**

Q.3 Octa Limited manufactures a single product under the brand name "Pak Pure". The latest estimates related to the current year are as follows:

Production and sales (units)	25,000
Cost per unit	
Direct material (Rs.)	40
Direct labour (Rs.)	20
Fixed overhead (Rs.)	15
Variable overhead (Rs.)	5
Total cost per unit (Rs.)	80

During the next year, the costs per unit are expected to increase as under:

	%
Direct material	20
Direct labour	10
Fixed overhead	5
Variable overhead	20

It is the policy of the company to set the selling price at the time of budget preparation at cost plus 50%. The Sales Manager is worried about the implications of this policy. According to his estimate, demand for the product will vary with price as follows:

Price (Rs.)	100	105	110	115
Demand (thousand units)	25	23	21	20

The Production Manager has informed that a different type of raw material is also available in the market at a cost of Rs. 42.30 per unit. He believes that the new material will give an acceptable quality of output. However, as a result of using cheaper material, a process of inspection will have to be introduced which will cost Rs. 30,000 per annum. The chances of rejection are 2% and 3% for raw material and finished goods respectively.

Required:

(a) Determine the price which will maximize the profit.

(b) Decide whether the company should continue to use the present type of raw material or switch over to the new one. **(10)**

(Round off all the figures to two decimal places).

Q.4 Nooruddin Ahmed is planning to start a new business. He will invest his saving amounting to Rs. 3,500,000 and intends to make borrowing arrangements with a bank to meet the working capital requirements. His planning is based on the following estimates:

(i) He has identified a factory cum office premises at a monthly rent of Rs. 80,000 which will be payable in advance at the beginning of each month. However, he needs to give three months rent as security deposit to the landlord before occupying the space. Other fixed overheads excluding depreciation are estimated at Rs. 120,000 per month which will be paid in the same month.

(ii) He has signed a contract for supply of machinery costing Rs. 1,800,000. The payment will be made at the time of delivery in January 2008. This machinery has an estimated life of five years with no residual value.

(iii) Production will start in January 2008 and 60% of the next month's sales will be manufactured in January 2008. Thereafter, the production will consist of 40% of the current month's sales and 60% of the next month's sales.

(iv) He estimates the following sales for the first five months:

Month	Unit	Rupees
January	-	-
February	2,400	3,120,000
March	3,200	4,160,000
April	4,000	5,200,000
May	4,800	6,240,000

(v) Sales will be made on credit basis. A 5% cash discount will be allowed for payments in the current month. It is estimated that 35%of each month's sales will qualify for this discount. Balance 65% will be recovered in the next month.

(vi) Variable production cost per unit has been estimated as:

	Rupees
Direct material	600
Direct labour	200
Variable overhead	100
Total variable cost per unit	900

(vii) Raw materials costing Rs. 1,600,000 will be purchased in January 2008 in cash. Thereafter, he intends to follow a policy of purchasing 50% of the monthly requirement in the same month and 50% of the next month's requirement. All purchases after January shall be made on 30 days credit.

(viii) Salaries shall be paid in the first week of subsequent month.

(ix) 70% of the variable overheads shall be paid in the same month and 30% in the next month.

Required:
Prepare a cash budget for the months January 2008 to April 2008 showing the balance of cash / running finance at the end of each month. **(20)**

Q.5 Quadra Electronics assembles and sells three products – W, X and Y. The cost per unit for each product is as follows:

	W	X	Y
	Rupees	Rupees	Rupees
Direct materials	4,880	1,600	1,000
Direct labour	4,000	2,000	700
Variable overheads	1,360	480	348
Fixed production overheads	1,172	1,290	960
Total cost per unit	11,412	5,370	3,008

The fixed overheads are worked out on the basis of normal production levels i.e 15,000; 45,000; and 60,000 units per annum for W, X and Y respectively.

The fixed selling and administrative costs for the next year are expected to be Rs. 71,270,400.

Management estimates that the ratio of sales quantities of W, X and Y shall be 1:3:4 and selling price per unit shall be Rs. 12,800; Rs. 6,000 and Rs. 3,600 respectively.

Required:
(a) Calculate the number of units of W, X and Y to be sold in order to achieve break even.
(b) Calculate the break even sales in terms of Rupees. **(16)**

Q.6 Ternary Packages is located at a remote site in an industrial estate which is far away from the center of the city. Management of the company is now considering to provide pick and drop facility to its employees. A two member committee has reviewed the available options and has come up with a proposal to purchase three vans and run them on three different routes i.e. A, B and C. The information for each van is as follows:

	Rupees
Purchase price	1,200,000
Expected trade-in value after 4 years	200,000
Insurance per annum	50,000
Quarterly service including change of lubricants	4,000
Replacement of spare parts per 20,000 km	15,000
Vehicle License fee per annum	8,000
Tyre replacements after 40,000 km	14,000
Cost of diesel per litre	40

Annual running for each van will be as follows:

	km
Van on route A	80,000
Van on route B	120,000
Van on route C	160,000

The committee has estimated that average running will be 16 km per litre.

Required:
(a) Prepare a schedule to be presented to the management showing following costs in respect of each van for the first year of operation:

– Total variable cost
– Total fixed cost
– Total cost
– Variable cost per km
– Fixed cost per km
– Total cost per km

(b) Briefly explain why the cost per km is different in each case. **(15)**

Q.7 Decimal World (Pvt) Limited is engaged in the manufacturing of standard and scientific calculators. The company operates a bonus scheme for all its factory workers. A performance bonus is incorporated into the wages by adding 75% of the efficiency ratio in excess of 100% to the basic hourly rate. The following information is available for the month of July 2007:

Basic rate of pay per hour (Rs.)	125
Standard production per hour (units)	4
Production during the period (units)	226,176
Actual hours spent	45,600

Required:
(a) Calculate the hourly wage rate inclusive of performance bonus.
(b) Calculate the total labour cost variance. **(10)**

(THE END)