



The Institute of Chartered Accountants of Pakistan

Cost Accounting

Intermediate Examination
Autumn 2012
Module D

7 September 2012
100 marks - 3 hours
Additional reading time - 15 minutes

- Q.1 (a) Following data is available from the records of Cortex Limited (CL) for the year ended 30 June 2012:

	Rupees
Profit as per cost accounts	150,000
Under-recovery of production overheads	11,500
Under-recovery of administrative overheads	18,000
Over-recovery of selling and distribution overheads	21,000
Overvaluation of opening stock in cost accounts	9,000
Overvaluation of closing stock in cost accounts	4,500
Loss on sale of fixed assets	1,000
Interest expenses	2,500
Preliminary expenses written off	12,000
Income tax	8,000
Notional rent on own building	5,000
Transfer to reserve fund	10,000
Dividend received	3,000
Interest earned on deposits	1,500
Share transfer fees	2,000
Discount on early payments to suppliers	4,000

Required:

Compute CL's financial profit after tax for the year ended 30 June 2012.

(10 marks)

- (b) Bile Limited (BL) produces and markets a single product Plasma. The projected levels of demand of Plasma at various prices are as under:

Demand (Units)	Selling price per unit (Rs.)	Cost per unit (Rs.)
1,000	55	29
1,100	53	28
1,200	52	27
1,300	49	26

Required:

Using tabular approach, calculate the marginal revenues and marginal costs for Plasma at different levels of demand. Also determine the price at which BL could earn maximum profits. *(05 marks)*

- Q.2 Jadeed Limited (JL) operates a multiple piece rate plan at its factory as follows:

- (i) Basic piece rate of Rs. 3 per piece is paid up to 80% efficiency;
- (ii) 120% basic piece rate where efficiency is more than 80% but less than or equal to 100%;
- (iii) 130% basic piece rate for above 100% efficiency.

The workers are eligible for a "Guaranteed Day Rate" which is equal to 70% efficiency.

Required:

Compute the labour cost per piece at 10% intervals between 60% and 130% efficiency, assuming that at 100% efficiency 80 pieces are produced per day. *(10 marks)*

- Q.3 (a) Stem Limited (SL) is engaged in the manufacture and sale of two products Petal and Leaf. Following information is available from SL's records for the year ended 30 June 2012:

	Petal	Leaf
Direct material	250 kg. @ Rs. 80 per kg.	125 kg. @ Rs. 128 per kg.
Direct labour @ Rs. 25 per hour	720 hours	960 hours
Sales	Rs. 65,000	Rs. 80,000
Profit margin	25% on cost	30% on sales price

Factory overheads are allocated to the products as a percentage of direct labour whereas administrative overheads are allocated as a percentage of direct material cost.

Required:

Compute the amount of factory and administrative overheads using simultaneous equations. *(10 marks)*

- (b) What is Idle Time? Discuss the treatment of idle time in cost accounting. *(05 marks)*

- Q.4 Mehanti Limited (ML) produces and markets a single product Wee. Two chemicals Bee and Gee are used in the ratio of 60:40 for producing 1 litre of Wee. ML follows perpetual inventory system and uses weighted average method for inventory valuation. The purchase and issue of Bee and Gee for May 2012, are as follows:

Date	Bee			Gee		
	Receipt		Issue	Receipt		Issue
	Litre	Rate	Litre	Litre	Rate	Litre
02-05-2012	-	-	-	450	110	-
05-05-2012	-	-	560	-	-	650
09-05-2012	-	-	300	-	-	300
12-05-2012	420	52	-	700	115	-
18-05-2012	-	-	250	-	-	150
24-05-2012	500	55	-	250	124	-
31-05-2012	-	-	500	-	-	450

Following further information is also available:

- (i) Opening inventory of Bee and Gee was 1,000 litres at the rate of Rs. 50 per litre and 500 litres at the rate of Rs. 115 per litre respectively.
- (ii) The physical inventories of Bee and Gee were 535 litres and 140 litres respectively. The stock check was conducted on 01 June and 31 May 2012 for Bee and Gee respectively.
- (iii) Due to contamination, 95 litres of Bee and 105 litres of Gee were excluded from the stock check. Their net realisable values were Rs 20 and Rs. 50 per litre respectively.
- (iv) 250 litres of Bee which was received on 01 June 2012 and 95 litres of Gee which was issued on 31 May 2012 after the physical count were included in the physical inventory.
- (v) 150 litres of chemical Bee was held by ML on behalf of a customer, whereas 100 litres of chemical Gee was held by one of the suppliers on ML's behalf.
- (vi) 100 litres of Bee and 200 litres of Gee were returned from the production process on 31 May and 01 June 2012 respectively.
- (vii) 240 litres of chemical Bee purchased on 12th May and 150 litres of chemical Gee purchased on 24th May 2012 were inadvertently recorded as 420 litres and 250 litres respectively.

Required:

- (a) Reconcile the physical inventory balances with the balances as per book.
- (b) Determine the cost of closing inventory of chemical Bee and Gee. Also compute the cost of contaminated materials as on 31 May 2012. *(15 marks)*

Q.5 Artery Limited (AL) produces and markets three products viz. Alpha, Beta and Gamma. Following information is available from AL’s records for the manufacture of **each unit** of these products:

		Alpha	Beta	Gamma
Selling price	(Rs.)	66	88	106
Material-A (Rs.4 per kg)	(Rs.)	8	0	12
Material-B (Rs.6 per kg)	(Rs.)	12	18	24
Direct labour (Rs. 10 per hour)	(Rs.)	25	30	25
Variable overhead based on:				
– Labour hours	(Rs.)	1.5	1.8	1.5
– Machine hours	(Rs.)	1.6	1.4	1.2
Total	(Rs.)	3.1	3.2	2.7
Other data:				
Machine hours		8	7	6
Maximum demand per month (units)		900	3,000	5,000

Additional information:

- (i) AL is also engaged in the trading of a fourth product Zeta, which is very popular in the market and generates a positive contribution. AL currently purchases 600 units per month of Zeta from a supplier at a cost of Rs. 40 per unit. In-house manufacture of Zeta would require: 2.5 kg of material-B, 1 hour of direct labour and 2 machine hours.
- (ii) Materials A and B are purchased from a single supplier who has restricted the supply of these materials to 22,000 kg and 34,000 kg per month respectively. This restriction is likely to continue for the next 8 months.
- (iii) AL has recently accepted a Government order for the supply of 200 units of Alpha, 300 units of Beta and 400 units of Gamma each month for the next 8 months. These quantities are in addition to the maximum demand stated above.
- (iv) There is no beginning or ending inventory.

Required:

Determine whether AL should manufacture Zeta internally or continue to buy it from the supplier during the next 8 months. (10 marks)

Q.6 Fowl Limited (FL) manufactures two joint products X and Y from a single production process. Raw material Benz is added at the beginning of the process. Inspection is performed when the units are 50% complete. Expected loss from rejection is estimated at 10% of the tested units. Following details are available for the month of May 2012:

	Units	Material (Rs.)	Conversion cost (Rs.)
Opening work in process	15,000	90,000	25,000
Transferred to finished goods:			
– Product- X	50,000		
– Product- Y	25,000	547,125	228,875
Loss due to rejection	12,500	-	-
Closing work in process	10,000	-	-

Additional information:

- (i) Opening and closing work in process are 75% complete.
- (ii) The normal loss is sold as scrap at the rate of Rs. 1.50 per unit.
- (iii) Production costs are allocated to joint products on the basis of weight of output.
- (iv) The company uses weighted average method for inventory valuation.

Required:

Cost of production report for the month of May 2012.

(15 marks)

- Q.7 Zodiac Limited (ZL) produces a single product and has a maximum production capacity of 300,000 units per annum. Following information pertains to ZL's estimated cost of production:
- (i) Direct material Rs. 12 per unit.
 - (ii) Direct labour Rs. 8 per unit. However, based on guaranteed wages, the minimum total cost of labour is Rs. 150,000 per month.
 - (iii) Variable overheads Rs. 6 per unit.
 - (iv) Semi-variable overheads Rs. 450,000 per annum up to 55% capacity. An additional amount of Rs. 180,000 per annum is estimated for every 20% increase in capacity or a part thereof.
 - (v) Fixed overheads Rs. 750,000 per annum.

During the first five-months of the year 2012, ZL utilized 70% of its production capacity. However, it is expected to utilize 92% capacity during the remaining seven-months. The actual selling price during the first five-months was Rs. 34 per unit.

Required:

Compute selling price per unit which should be charged by ZL for the remaining seven-months to earn a total profit of Rs. 936,000 for the year 2012. *(10 marks)*

- Q.8 Tychy Limited (TL) is engaged in the manufacture of Specialized motors. The company has been asked to provide a quotation for building a motor for a large textile industrial unit in Punjab. Following information has been obtained by TL's technical manager in a one-hour meeting with the potential customer. The manager is paid an annual salary equivalent to Rs. 2,500 per eight-hour day.

- (i) The motor would require 120 ft of wire-C which is regularly used by TL in production. TL has 300 ft of wire-C in inventory at the cost of Rs. 65 per ft. The resale value of wire-C is Rs. 63 and its current replacement cost is Rs. 68 per ft.
- (ii) 50 kg of another material viz. Wire-D and 30 other small components would also be required by TL for the motor. Wire-D would be purchased from a supplier at Rs. 10 per kg. The supplier sells a minimum quantity of 60 kg per order. However, the remaining quantity of wire-D will be of no use to TL after the completion of the contract. The other small components will be purchased from the market at Rs. 80 per component.
- (iii) The manufacturing process would require 250 hours of skilled labour and 30 machine hours. The skilled workers are paid a guaranteed wage of Rs. 20 per hour and the current spare capacity available with TL for such class of workers is 100 direct labour hours. However, additional labour hours may be obtained by either:
 - Paying overtime at Rs. 23 per hour; or
 - Hiring temporary workers at Rs. 21 per hour. These workers would require 5 hours of supervision by AL's existing supervisor who would be paid overtime of Rs. 20 per hour.

The machine on which the motor would be manufactured was leased by TL last year at a monthly rent of Rs. 5,000 and it has a spare capacity of 110 hours per month. The variable running cost of the machine is Rs. 15 per hour.

- (iv) Fixed overheads are absorbed at the rate of Rs. 25 per direct labour hour.

Required:

Compute the relevant cost of producing textile motor. Give brief reasons for the inclusion or exclusion of any cost from your computation. *(10 marks)*

(THE END)