The Institute of Chartered Accountants of Paki

Cost Accounting

Intermediate Examination	6 September 2013
Autumn 2013	100 marks - 3 hours
Module D	Additional reading time - 15 minutes

Q.1 (a) Rahat Limited (RL) produces and markets a single product Beta. Following are the details of RL's monthly production and related costs for the past six months:

	March	April	May	June	July	August
Units	1,115	2,185	1,265	1,610	2,645	1,380
Costs **(Rs. '000)**	1,775	2,300	1,660	1,840	2,875	2,300

Required:
Using least square method, calculate the estimated cost to produce 1,800 units of Beta. **(09)**

(b) What do you understand by 'Period cost'? Briefly describe 'Product cost' in relation to both manufacturing and merchandising firms. **(06)**

(c) Gama Industries (GI) has secured an order for production of a new product Alpha which would require 600 hours of direct labour. The spare capacity available with GI is 450 direct labour hours. The additional labour hours may be obtained by either:

- paying overtime at time and a half; or
- diverting labour from the production of product Zeta which earns a contribution margin of Rs. 24 in three labour hours.

Required:
Calculate the relevant cost of labour for the production of Alpha, assuming labourers are paid at a uniform rate of Rs. 20 per hour. **(04)**

Q.2 Design Limited (DL) produces and markets two products viz. Olive and Mint. Following information is available from DL's records for the year ended 30 June 2013:

		Olive	Mint
Selling price per unit	Rs.	760	550
Variable cost of production per unit	Rs.	520	430
Selling and distribution expenses per unit	Rs.	40	20
Fixed cost	Rs.	4,400,000	5,200,000
Number of units produced and sold		120,000	150,000

The above sales volumes are based on the market demand for these products. DL is currently operating at 75% of the installed capacity. Time required for producing each unit of Olive and Mint is the same. In order to utilize the spare capacity of the plant, the marketing department has suggested the following options to the management:

Option 1: Introduce a single pack of both the products Olive and Mint. The price of the single pack would be 90% of the combined price of separate products. It would increase overall market demand for these products resulting in utilisation of full capacity. However, it is estimated that the sale of separate units of each products would reduce by 18%.

Option 2: To launch a new product Salsa at a price of Rs. 380 per unit. Salsa is estimated to have a demand of 80,000 units per annum and a unit variable cost equal to 40% of the variable cost of Olive. It would result in additional fixed costs of Rs. 3,200,000 per annum.

Required:
Evaluate the above options and advise the management about the most feasible option. **(11)**

Q.3 Big Limited (BL) manufactures and supplies consumer durables. It uses a fixed time period inventory model whereby inventory count is carried out every month. In order to employ inventory optimization and keep costs under control, the management has approved to implement ABC plan on test basis, for reviewing inventory in one of BL's departments. This approach would categorize the inventory on the following basis:

- Items that account for upto 25% of the annual consumption in units would be classified as 'A'
- Items that account for more than 25% but less than or equal to 60% of the annual consumption in units would be classified as 'B'
- Items that account for more than 60% of the annual consumption in units would be classified as 'C'.

The 'A' items would be counted once after every 30 days; 'B' items once after every 45 days; and 'C' items once after every 90 days.

Following information is available from BL's records of the concerned department:

Item Code	**101**	**102**	**103**	**104**	**105**	**106**	**107**	**108**
Annual consumption (Units '000)	550	300	300	600	125	325	500	750
Rate per unit (Rs.)	50	400	40	45	600	120	20	25

Each inventory count is estimated to cost Rs. 2,500 per item. Assume 360 days in a year.

Required:
Classify the above inventory items according to the ABC plan and calculate annual savings, if any, if the above approach is implemented. **(12)**

Q.4 Crystal Limited (CL) is engaged in the business of supplying plastic chairs to schools and hospitals in Karachi. Following data has been extracted from CL's business plan:

	Actual	**Forecast**			
	Aug. 2013	**Sep. 2013**	**Oct. 2013**	**Nov. 2013**	**Dec. 2013**
Purchases (Rs. '000)	600	520	680	640	560

Additional information:

(i) All the above amounts are exclusive of sales tax. The company uses Just-in-time inventory system and therefore has a negligible stock at any point of time.

(ii) Sales tax is charged at the rate of 17% and is payable on the 15th day of the next month along with the sales tax return. Refunds, if any, are received one month after submission of the sales tax return.

(iii) 70% of the sales are made to hospitals on two months credit whereas the rest of the sales are made to schools on credit of one month. All debtors are expected to promptly settle their debts. CL earns a uniform gross profit of 20 percent on sales.

(iv) 10% of the creditors are paid in the month of purchase, 60% are paid in the first month subsequent to purchase and the remaining 30% are paid in the second month following the purchase.

(v) Monthly salaries and wages amount to Rs. 95,000 and are paid in the month in which they are incurred.

(vi) A monthly rent of Rs. 50,000 is paid in advance on quarterly basis.

(vii) Selling expenses for September are estimated at Rs. 40,000. 35% of selling expenses are fixed whereas remaining amount varies with the variation in sales. Selling expenses are paid in the month in which they are incurred.

(viii) Other overhead expenses are estimated at 6% of the sales for the previous month.

(ix) Cash and bank balances as at 30 September 2013 are estimated to be Rs. 1,000,000.

Required:
Prepare a month-wise cash budget for the **quarter** ending 31 December 2013. **(16)**

Q.5 Power Limited (PL) is engaged in the business of overhaul and repair of turbo-generators. The company uses job order costing system. Following data has been extracted from the cost cards relating to jobs completed in the month of August 2013:

	Rs. '000
Materials issued	55,000
Direct labour	41,000
Overheads on material	25%
Overheads on direct labour	80%

The clients are billed at each month-end on the basis of cost cards and PL earns a profit of 20% of the invoice value for each completed job.

Actual expenses for the month of August 2013 were as under:

	Rs. '000
Factory wages (inclusive of indirect labour)	65,000
Factory expenses	15,000
Store expenses	7,500
Other office expenses	4,500

Following information is also available:

(i) Material requisitions not recorded in the cost cards amounted to Rs. 5,600,000.

(ii) Direct labour shown as indirect in the cost cards amounted to Rs. 2,900,000.

(iii) Details of stock and work in process for the month of August 2013 are as under:

	Opening	**Closing**
	---------Rs. '000---------	
Stock of materials	5,000	5,500
WIP - material	10,000	10,500
WIP - labour	2,500	4,500

Required:

Calculate the following for the month of August 2013:

(a) Purchases
(b) Direct labour
(c) Under / over absorbed overheads
(d) Actual profitability of completed jobs **(12)**

Q.6 (a) Maroof Engineering (ME) produces and markets a single product. In order to keep pace with the changing technology, ME's management has decided to install high-tech machines in its production department which would result not only in improving the productivity but would also reduce the number of workers from the present level of 500 to 400 workers. Following information is available from ME's records for the year ended 31 August 2013:

Sales per month	Rs. 12,000,000
Wages paid to workers per month	Rs. 2,000,000
Other benefits	35% of wages
Production per month	80,000 units
Profit/volume (P/V) ratio	30%

After the installation of high-tech machines, the company is expected to produce 89,600 units per month. The management has also decided to pay 1.6% incentive wages to the workers for every 2% increase in productivity.

Required:

Calculate the annual financial implication of the proposal. **(11)**

(b) Following data is available from the production records of Mian Industries for the month of August 2013. The company uses process costing to value its output.

- Input materials 5,000 units at the rate of Rs. 49 per unit.
- Conversion costs Rs. 30,000.
- Normal loss, which is 10% of input materials, is sold as scrap at Rs. 19 per unit.
- Actual loss 650 units.
- There were no opening or closing stocks.

Assume inspection is performed at the end of the process.

Required:
Calculate the amount of abnormal loss and cost of one unit of output. **(03)**

Q.7 Zaiqa Limited (ZL) is engaged in the business of manufacturing fruit jam. It has three production and two service departments. Following information is available from ZL's records for the month of August 2013:

	Rupees
Rent and rates	85,000
Indirect wages	60,000
General lighting	75,000
Power	150,000
Depreciation machinery	50,000

Following further information relating to the departments is also available:

		Production departments			**Service departments**	
		Selection	**Jam making**	**Bottling**	**Storage**	**Distribution**
Direct wages	**(Rs.)**	60,000	80,000	32,000	8,000	20,000
Power consumed	**(KWH)**	1,000	6,000	2,000	1,000	-
Floor area	**(Sq. ft)**	1,500	2,000	1,250	1,000	500
Light points	**(Nos.)**	10	20	15	5	10
Production hours		1,533	3,577	1,815	-	-
Labour hours per bottle		0.10	0.25	0.15	-	-
Cost of machinery	**(Rs.)**	600,000	1,200,000	900,000	300,000	-

After production, the jam bottles are finally packed in a carton consisting of 12 bottles. The service departments costs are apportioned as follows:

	Production departments			**Service departments**	
	Selection	**Jam making**	**Bottling**	**Storage**	**Distribution**
Storage	10%	30%	40%	-	20%
Distribution	20%	50%	30%	-	-

Raw and packing material costs of Rs. 36 and labour cost of Rs. 25 is incurred on each bottle.

Required:
Calculate the cost of each carton. **(16)**

(THE END)