The Institute of Chartered Accountants of Pa

Management Accounting

Final Examination	4 December 2012
Winter 2012	100 marks - 3 hours
Module F	Additional reading time - 15 minutes

Q.1 SGL Limited is a manufacturer of engineering goods. It is in the process of preparing budget for the year ending 31 December 2013. The following data has been extracted from the projected Profit and Loss Account for the year ending 31 December 2012.

Summarised Profit and Loss Account

	Rs. in million
Sales	1,000
Cost of sales:	
Manufacturing costs	(722)
Opening finished goods inventory	(81)
Closing finished goods inventory	89
	(714)
Operating costs	(100)
Financial charges	(16)
Profit before tax	**170**

Other relevant information is as under:

(i) For the year 2013 SGL plans to earn a mark-up of 50% on cost of sales. The sales volume is expected to increase by 20%. Cash sales would be made at a discount of 2% and it is estimated that net cash sales after discount would constitute 20% of total sales.

(ii) Opening balances of trade debtors and trade creditors are Rs. 90 million and Rs. 40 million respectively. Trade debtors are expected to increase by 20%.

(iii) Purchases and other expenses are paid in 60 days and 35 days respectively.

(iv) Manufacturing costs comprise raw materials consumed and variable and fixed conversion costs in the ratio of 35:45:20. Fixed costs include depreciation of Rs. 3 million. Effect of price increase in 2013 on raw materials and variable and fixed costs (excluding depreciation) is estimated at 8%, 10% and 6% respectively.

(v) Operating costs for 2012 include depreciation amounting to Rs. 9 million and advertisement cost of Rs. 16 million. All other costs vary in line with the variation in sales. Price effect on advertisement costs and other variable costs for 2013 is estimated at 6% and 10% respectively.

(vi) Depreciation for 2013 would be the same as in 2012.

(vii) Closing inventory of finished goods is estimated at Rs. 97 million on 31 December 2013. Raw material inventory would be maintained at 30 days consumption.

(viii) SGL uses absorption costing. FIFO method is used for valuation of inventories.

(ix) Financial charges are expected to increase by 10% and are payable on quarterly basis on 1st day of the next quarter.

(x) SGL's paid-up share capital is Rs. 80 million. Dividend is estimated as under:

2012	Final dividend of 20% cash and 10% bonus shares.
2013	Interim cash dividend of 15% and final cash dividend of 20%.

Required:

Prepare a projected cash flow statement for the year ending December 31, 2013. [***Assume that except stated otherwise, all transactions are evenly distributed over the year (360 days)***] **(17)**

Q.2 (a) Briefly describe three areas where the learning curve can effectively be used by a manufacturing concern. **(03)**

(b) Quality Plastics Limited (QPL) produces plastic bodies of various appliances according to the customers' specifications. It has received an order for supply of 10,000 plastic bodies of a washing machine. The supply is to be made within 30 days.

The following information is available:

(i) QPL carries out production process in batches of 100 units each. Cost of the first batch is estimated as under:

		Rupees
Direct material (inclusive of 10% input losses)	1,100 kg	66,000
Direct labour cost at normal rate	200 hours	44,000
Overheads at normal rate	200 hours	30,000

(ii) It is estimated that due to learning curve effect, completion of the first, second, third and fourth batch would require 200, 160, 148 and 140 hours respectively. This learning effect would continue till completion of 64 batches only. Learning effect at various learning levels is as under:

80%	85%	90%
–0.322	–0.235	–0.152

(iii) It is estimated that after completion of the first 16 batches, material input losses would be reduced from 10% to 6%.

(iv) QPL works a single shift of 8 hours per day. For the above order, QPL can spare 8,000 direct labour hours. Overtime hours can be worked at 1.5 times the normal rate. During the overtime hours, overheads would be 1.25 times the normal rate.

Required:
Compute the price that QPL should quote in order to earn a margin of 25% of the selling price. **(12)**

Q.3 RCL manufactures three products. Presently, overheads are allocated to each product on the basis of direct labour hours. In order to determine the cost of products more accurately, RCL has decided to implement Activity Based Costing for allocation of overheads.

The following data has been extracted from RCL's budget for the next year:

Products		**X**	**Y**	**Z**
Cost per unit:		-------------	**Rupees**	-------------
Direct material @ Rs. 200 per kg		400	300	500
Direct labour @ Rs. 50 per hour		300	350	250
Other data:				
Production	units	50,000	40,000	25,000
Batch size	units	500	250	250
Inspection time per batch	hours	20	15	18
Economic order quantity (EOQ)	kg	10,000	12,000	6,250

Details of factory overheads budgeted for the next year are as under:

	Rs. in '000
Procurement department costs	2,500
Batch set up costs	3,600
Quality control department costs	4,510
Utilities	4,230
Salaries of supervisors and foremen	3,525
Salaries of cleaners and maintenance staff	1,410
Miscellaneous costs	705
Total	**20,480**

Required:
Compute product-wise cost per unit using Activity Based Costing. **(12)**

Q.4 Industrial Tools Limited (ITL) manufactures heavy tools for auto industry. Due to slack business conditions, approximately 30,000 labour hours remain idle each month. Due to highly technical nature of this job additional labour is not available. Moreover, since the company does not want to lose the existing workers, idles hours are paid at 50% of the normal wage rate of Rs. 100 per hour. Overheads are estimated at Rs. 150 per labour hour which includes variable as well as fixed overheads. Idle hours result in unabsorbed fixed overheads of Rs. 0.9 million.

ITL is considering an offer for supply of 10,000 units of tool Zee. In this respect, the following information is available:

(i) Each unit of Zee would require 2 kg of material Alpha which is available in the market at Rs. 1,100 per kg. Alternatively, ITL could use 2.5 kg of a substitute material Beta which can be produced internally. Production of each kg of Beta would require raw materials costing Rs. 520 and 1.25 labour hours. Processing of Beta would also require a special equipment which is available at a rent of Rs. 188,000 per month.

(ii) To improve productivity, ITL plans to pay wages of Rs. 210 per unit of Zee or Rs. 100 per hour, whichever is higher. It is estimated that production of Zee at various efficiency levels would be as follows:
- 50% units in 2.2 hours per unit,
- 30% units in 2.0 hours per unit, and
- Remaining units in 1.8 hours per unit.

Required:
Compute selling price which ITL may offer for supply of Zee, if ITL requires a margin of 30% above the relevant costs. **(13)**

Q.5 ICL has two divisions. Division A produces Gamma which is transferred to division B and is also sold in the open market. Division B converts Gamma into an advanced version Gamma-plus. Both divisions are managed by their respective managers who are free to adopt policies which maximise profits of their respective divisions. In addition to monthly salaries, the division managers are paid bonus equivalent to 15% of profit after bonus.

ICL is in the process of finalising its strategy for the next year. Extracts from the budget are given below:

		Division	
		A	B
Annual installed capacity	kg	200,000	250,000
Raw material cost per kg	Rs.	102.00	637.50
Total conversion costs per kg of finished products	Rs.	108.00	230.00
Variable selling expenses per kg	Rs.	14.00	15.00
Fixed manufacturing costs based on installed capacity	Rs.	7 million	6 million

Production of Division A is transferred to Division B at market price subject to a maximum mark-up of 25% on total costs. In Division B, 1 kg of raw material Y is added for every kg of Gamma received from Division A.

According to a market study recently carried out by ICL, the relationship between selling price and demand for the two products is as under:

Gamma				
Selling price per kg	Rs.	300	375	450
Expected annual demand	kg	150,000	100,000	50,000
Gamma-plus				
Selling price per kg	Rs.	960	1,080	1,200
Expected annual demand	kg	70,000	50,000	30,000

The newly appointed CEO of ICL has realised that the policy of independent decision making by the divisions is affecting the overall profitability of the company. However, he realises that any revision in policy may be resisted by one or both the divisional managers on account of change in their bonuses.

Required:

(a) Determine the strategy to be adopted for maximisation of profit of the company. **(10)**

(b) Compute the increase/decrease in the bonus amounts on account of the revision in the company's policy, if any. **(10)**

Q.6 (a) Explain the difference between fixed overhead variances calculated under the absorption costing as compared to marginal costing. **(03)**

(b) Ancient Pharma Limited (APL) a subsidiary of a foreign company uses standard costing system. It produces a single product Sigma. The standard cost per unit of the product Sigma is as follows:

		Rs. per unit
Direct material	8 kg @ Rs. 500	4,000
Direct labour	10 hours @ Rs. 80	800
Overheads (fixed and variable)	10 hours @ Rs. 50	500

Standards are reviewed and updated every six months, in January and July. Overhead rate is based on normal operating capacity of 57,500 hours and budgeted fixed overheads of Rs. 1.15 million per month.

Actual data for the month of November 2012 is as under:

Direct material purchases	Rs. 24.30 million
Direct labour cost	Rs. 5.28 million
Overheads (fixed and variable)	Rs. 3.50 million
Units put into process	6,300 units
Units lost in process (normal loss)	250 units

The position of inventories was as under:

	1 November 2012	**30 November 2012**
Raw material	4,000 kg	5,000 kg
Units in process	100 units (60% converted)	150 units (80% converted)
Finished goods	200 units	800 units

APL uses FIFO method for valuing the output from the process. Losses occur at the end of the process.

Other relevant information is as under:

(i) The normal sale price of the product is Rs. 7,000 per unit. Actual sale includes exports (20% of total sales) at 15% above the normal price and sales to a corporate buyer (25% of total sales) at a discount of 10%.

(ii) Raw material price effective 1 November 2012 has decreased to Rs. 486 per kg. APL records material price variance at the time of purchase.

(iii) To reduce labour turnover, APL decided to increase wages of direct labour to Rs. 88 per hour effective 1 November 2012. A 10% increase was allowed to all other employees.

(iv) Salaries and wages form 25% of the fixed overheads. Remaining fixed overheads have increased to 4% above standard.

(v) Conversion costs are applied uniformly throughout the process.

(vi) The variances (price and volume) are treated as period cost and charged to profit and loss account.

Required:

Using standard costing, prepare profit statements for the month of November 2012 under absorption costing. **(20)**

(The End)