INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF PAKISTAN

Fall 2012 (February 2013) Examinations

Tuesday, the 19th February 2013

STRATEGIC MANAGEMENT ACCOUNTING – (AF-601)

SEMESTER-6

Extra Reading Time:	**15 Minutes**		
Writing Time:	**02 Hours 45 Minutes**	**Maximum Marks: 90**	**Roll No.:**

(i) Attempt all questions.
(ii) Answers must be neat, relevant and brief.
(iii) In marking the question paper, the examiners take into account clarity of exposition, logic of arguments, effective presentation, language and use of clear diagram/ chart, where appropriate.
(iv) Read the instructions printed inside the top cover of answer script CAREFULLY before attempting the paper.
(v) Use of non-programmable scientific calculators of any model is allowed.
(vi) DO NOT write your Name, Reg. No. or Roll No. anywhere inside the answer script.
(vii) Question No.1 – "Multiple Choice Question" printed separately, is an integral part of this question paper.
(viii) **Question Paper must be returned to invigilator before leaving the examination hall.**

Answer Script will be provided after lapse of 15 minutes Extra Reading Time (9:30 a.m. or 2:30 p.m. [PST] as the case may be).

Marks

Q. 2 (a) (i) What is linear programming? What are the requirements (conditions) to solve a problem of linear programming? **04**

(ii) A poultry feed maker mixes three items in the feed. Item 'A' costs Rs.20 per kg, item 'B' costs Rs.40 per kg and item 'C' costs Rs.55 per kg. Each item contributes some essential part of the poultry feed and the producer wishes to produce the feed as cheaply as possible. Establish the objective function. **03**

(b) Brother Engineering Ltd., is an established vendor of special part to major automobiles manufacturers. It has been offered the choice of making the parts either for Car-A or Car-B for the next period, but not for the both.

Both parts use the same special alloy, of which only 13,000 kilograms is available, at Rs. 1,875 per kilogram. The parts are made by passing each one through two fully automatic computerized machines Auto Tech and Auto Sign whose capacities are limited. Target prices have been set and the following data is available for the period:

	Parts Details for Car-A	**Part Details for Car-B**
Maximum demand	7,000 units	9,000 units
Target price	Rs. 21,750 per unit	Rs. 17,250 per unit
Alloy usage (per unit)	1.6 kgs	1.6 kgs
Machines Time (per unit):		
Auto Tech	0.6 hour	0.25 hour
Auto Sign	0.5 hour	0.55 hour

Machines Details:	**Auto Tech**	**Auto Sign**
Hours available	4,000	4,500
Variable overhead per machine hour	Rs. 12,000	Rs. 15,000

Required:

(i) Calculate which vehicle part should be made during the next period to maximize contribution. **08**

(ii) Calculate the contribution which Brothers Engineering Limited will earn and also state whether the company will be able to meet the maximum demand. **02**

(iii) As an alternative to the target prices, the automobile manufacturers have offered the alternative arrangements i.e., target prices less 10% plus Rs. 9,000 per hour for each unused machine hour. Calculate the new contribution. Is your recommendation changed as compared to target prices alternative? **05**

Marks

Q. 3 Gujrat Engineering Ltd., produces and sells washing machines. It also manufactures the spindles for its machines. It expects to produce and sell 24,000 washing machines during the year 2013-14. It is considering an offer from an outside vendor to supply any number of spindles at price of Rs.300 per spindle.

The accounts of the company reports the following costs for producing 24,000 spindles:

Rupees

Cost	Cost per Unit	Total Cost
Direct material	125.00	3,000,000
Direct labour	100.00	2,400,000
Variable manufacturing overhead	50.00	1,200,000
Quality control, down time etc.	25.00	600,000
Machine leasing cost	25.00	600,000
Allocated fixed overhead	31.25	750,000
	356.25	8,550,000

The following additional information is available:

(i) Quality control, down time etc., vary with the number of batches in which the spindles are produced. Currently spindles are being produced in the batch size of 2,000 units.

(ii) Direct labour cost represents wages to workers who are exclusively engaged in the manufacturing of spindles. The workers are highly trained and skilled hence cannot be terminated.

(iii) If company procures all its spindles from outside vendor, it will not require the machine which it has hired for manufacturing of these spindles.

Required:

(a) Assume that if Gujrat Engineering Ltd., purchases spindles from outside vendor, the facility (including workers) where the spindles are currently manufactured will remain idle. Should the company accept the offer from outside vendor at the anticipated production and sale volume of 24,000 units? **05**

(b) Whether your decision in (a) above will change if facilities can be used to upgrade the washing machine which will result in an incremental revenue of Rs. 550 per machine. The variable cost of upgrading would be Rs. 450 and tooling cost would be Rs. 400,000. **06**

(c) Assume that facilities will be used as stated in (b) above. Further, assume that with better planning, Gujrat Engineering Ltd., will be able to manufacture these spindle in the batch size of 4,000 units (instead of 2,000 units), if it decides to produce spindles in-house. What will you advise? Show all workings. **07**

Q. 4 Kemia Industries Ltd., has its home office in Lahore with three factories situated at Shaikhupora, Sialkot and Faisalabad. The operations at Sialkot have been unprofitable for a number of years. The leasehold of Sialkot will also expire by the end of current year.

In view of the continued losses the management has decided to close down the said factory rather than lease again. The factory's plant and machinery can be sold at a price higher than the written down value and the surplus funds will be sufficient to cover all termination costs.

The projected profitability of the factories for the year are as under:

Rs. in million

	Shaikhupora	Sialkot	Faisalabad	Total
Sales	6,000	1,500	4,500	12,000
Variable costs	3,300	1,125	2,925	7,350
Fixed costs:				
Factory	1,200	450	600	2,250
Selling and admin	750	75	225	1,050
Home office expenses apportioned	375	225	375	975
Profit and loss	375	(375)	375	375

The company, however, would like to continue to serve the customers now being served by Sialkot factory, if it could do so economically. Accordingly following proposals were put forward for consideration based on a selling price of Rs. 37,500 per unit:

Proposals:

(a) Close down Sialkot factory and expand the operations of the Faisalabad factory for which capacity is existed there. This proposal will involve the following changes:

- Sales revenue of Faisalabad factory will increase by 25%.
- The factory fixed cost of Faisalabad factory will increase by 10%.
- Fixed selling and administrative costs of the said factory will increase by 5%.
- Variable distribution costs of the additional output will increase by Rs.600 per unit.

(b) Close down Sialkot factory and expand the operations of the Shaikhupora factory subject to the following changes in the result of Shaikhupora factory:

- Sales revenue will increase by Rs.1,200 million.
- Factory fixed costs will increase by 20%.
- Fixed selling and administrative costs will increase by 10%.
- Variable distribution costs in respect of the additional units will increase by Rs. 750 per unit.

(c) Close down Sialkot factory and enter into a long-term contract with an independent manufacturer to serve the customers of Sialkot factory. The manufacturer will pay the royalty of Rs. 750 per unit to the company. In that event the sales of the area served by the Sialkot factory will fall by 25%.

(d) Close down Sialkot factory and discontinue serving the present customers of the area.

Required:

Evaluate each of the above proposals and advise the management for the action to be taken in the interest of improving profitability of the company. **20**

Q. 5 Zarq Corporation, a manufacturing company has the following budgeted costs for one month which are based on a normal capacity level of 40,000 hours. A departmental overhead absorption rate of Rs. 66 per hour has been calculated on the basis of budgeted overheads. Actual overheads are given along with budgeted overheads as under:

Overheads	Budgeted		Actual (Rs. '000')
	Fixed (Rs. '000')	Variable per Hour (Rs.)	
Management and supervision	450	–	450.00
Shift premium	–	1.50	60.00
Employees benefits and pension costs	90	3.30	225.00
Inspection	300	3.75	420.00
Consumable supplies	90	2.70	190.50
Power for machinery	–	3.00	117.00
Lighting	60	–	63.00
Rent, rates and taxes	135	–	135.00
Repairs and maintenance	120	2.25	226.50
Materials handling	150	4.50	321.00
Depreciation of machinery	225	–	225.00
Auxiliary services	180	–	172.50
Total	**1,800**		**2,605.50**
Per hour rate	45	21.00	

During the month of January 2013, the company actually worked 36,000 hours.

Required:

(a) Prepare a statement showing the flexible budget for the month of January 2013, the actual costs and the variance for each overhead items. **10**

(b) Calculate the following:

(i) The rate of overhead absorbed. **01**

(ii) The total amount under/ over-spent. **01**

Marks

Q. 6 Texchem Corporation has two divisions, both manufacturing textile auxiliaries with same grade and quality and located at HUB and SITE. Annual output of the division at HUB is 6,000 tonnes (80% capacity) and that of SITE is 7,500 tonnes (60% capacity). The basic raw material used is available locally at both the places, but limited to 3,000 tonnes per annum @ Rs. 13,500 per tonne at HUB and 8,000 tonnes per annum @ Rs. 15,000 per tonne at SITE. Any additional requirement will have to be purchased from other markets at a rate of Rs. 17,250 per tonne. F.O.R. at either division. Variable cost at each division is constant per tonne of output. For every 100 tonnes of output, 80 tonnes of basic raw material is required.

The details of other annual variable and fixed costs of the divisions are as under:

Rs. in million

	HUB	**SITE**
Other variable cost (excluding raw material)	117.00	144.00
Fixed cost	75.00	90.00

Required:

(a) Prepare cost of production statement for total output and for determining each tonne of output, the raw material cost, other variable cost and total cost in respect of each division, giving detailed presentable working. **08**

(b) Determine the quantity of production that could be transferred between the two divisions, if the company desires to fully utilize the available local supplies of raw material to reduce cost of production, keeping the total production of both the divisions put together, the same as at present. **04**

(c) Prepare revised cost of production statement {as prepared in **(a)** above} for both divisions based on the alternative at **(b)** above and identify the cost saving. **06**

THE END