INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF PAKISTAN

SPRING (SUMMER) 2008 EXAMINATIONS

Friday, the 23rd May, 2008

MANAGEMENT ACCOUNTING-DECISION MAKING – (S-502)

Stage- 5

Time Allowed – 2 Hours 45 Minutes | Maximum Marks – 90

(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 on 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.

Marks

Q. 2 **(a)** Amir Ltd., finds that new production is affected by an 80% learning curve. The company has just completed 5,000 units at 10,000 hours, per unit hours required 2. The cost of producing 5,000 units were as follows:

	Rupees
Direct material 5,000 units @ Rs.20/- per unit	100,000
Conversion cost:	
Direct labour 10,000 hours @ Rs.8/- per unit	80,000
Variable overheads 10,000 hours @ Rs.2/- per unit	20,000
Total cost	200,000

The company has just received an order for another 5,000 units. Management wants to add a 50% markup to the cost of material, labour and overheads.

Required:

Compute the price to be charged to the order. 08

PTO

Marks

(b) (i). Explain the term capital rationing and suggest the criteria to be used in ranking projects under capital rationing. 03

(ii). There are three projects A, B and C having the following cash outflow and net present value:

	(Rupees)	
Project	**Cash outflow**	**NPV**
A	90,000	23,828
B	120,000	13,872
C	102,700	31,173

There are three companies X, Y, Z with capital budget for the current year of Rs.100,000, Rs.150,000 and Rs.200,000 respectively.

Required:

(1) Calculate the profitability index. 02

(2) Rank the projects using the profitability index. 01

(3) Suggest which project(s) each company will undertake. 03

Q. 3 Karachi Electrics (K.E) Ltd., a local company produces electrical household equipment including 50,000 electric irons per annum. For each iron, they use a specialized component which they import at a cost of Rs.115.

Recently the management of K. E Ltd., instructed their Chief Accountant to advise on the costs involved, if the company were to manufacture the components instead of importing them since the company has the necessary technological know-how.

The Chief Accountant after consulting various departmental managers made calculation based on the following information:

(i) Direct materials to produce 50,000 components would cost Rs.3,000,000.

(ii) Direct labour at the standard hourly rate of Rs.50 would cost Rs.2,000,000.

(iii) The company's overheads excluding depreciation and supervision costs would increase from Rs.2,100,000 to Rs.2,400,000.

(iv) With the level of overheads Rs.2,400,000 the overhead recovery rate would be Rs.6 per direct labour hour.

(v) For the components to be produced locally, the K. E Ltd., would have to buy a new machine worth Rs.1,000,000. The expected useful life of this machine is 5 years.

Marks

(vi) Production of these components would also utilize 10% capacity of an existing machine which was bought in the previous year at a cost of Rs.40,000,000. The expected useful life of this machine is 8 years. Currently, only 70% of the machine's capacity is being utilized.

(vii) The supervision of production will fall on Mr. Ubaydullah who earns a salary of Rs.500,000 per annum. Management thinks that Mr. Ubaydullah is only half utilized.

(viii) The company uses straight line method of depreciation, which reduces salvage value of the machines to zero.

After making all the calculations be deemed necessary, the Chief Accountant concluded that the standard cost of manufacturing the components was Rs.125 per unit. On the basis of this information the management decided to continue importing the components as this would save the company Rs.500,000 per annum.

Required:

(a) Prepare a comprehensive statement, showing how the Chief Accountant worked out the standard cost of Rs.125 per component. — 07

(b) State whether the management made use of relevant costs in arriving at their decision. If you think that management did not use relevant costs, then prepare a statement and apply the criteria of relevant costs. — 06

(c) Assuming that the costs of producing or importing the components were equal, give six major advantages of manufacturing the components. — 03

Q. 4 Galaxy Pharma Ltd., is considering whether to develop and market a new painkiller. Development costs are estimated to be Rs.900,000 and there is a 0.75 probability that the development effort will be successful and a 0.25 probability that the development will be unsuccessful. If the development is successful, the product will be marketed and it is estimated that:

1- If the product is very successful, profits will be Rs.2,700,000;

2- If the product is moderately successful, profits will be Rs.500,000;

3- If the product is failure, there will be a loss of Rs.2,000,000;

Each of the above profit and loss calculation is after taking into account the development costs of Rs.900,000. The estimated probability of each of the above events are as follows:

1- Very successful	0.4
2- Moderately successful	0.3
3- Failure	0.3

Required:

(a) Prepare a decision tree. — 08

(b) Offer your comments. — 08

PTO

Marks

Q. 5 Hilton plastics uses a plastic molding machine with a present book value of Rs.2,500,000. The company is producing a single product, cost data is as under:

	Rs. / Unit
Direct Material	125
Direct Labour	225
Overheads – variable	75

Fixed overhead Rs.650,000 per annum excluding non-cash items for production upto 20,000 unit. It will increase by Rs.100,000 per annum from 20,000 to 24,000 units. The company estimates its future production at 22,000 units per annum for the next five years. The sale price of the machine at the end of 5th year is Rs.50,000. If the machine is sold today, the sale price will be Rs.1,750,000 net. A proposal for replacement of the said machine with a more sophisticated machine is under consideration. The data relating to the new machine are:

	Rupees
Purchase price	6,500,000
Operating costs:	
Direct material and direct labour	290 per unit
Variable overheads	60 per unit

Fixed overheads consisting of only cash items Rs.1,050,000 per annum upto 25,000 units. Value at the end of 5th year of life is Rs.1,500,000. Rate of depreciation 10% per annum. Rate of Income Tax 50%.

Required:

(a) Determine the cost per unit on absorption cost basis for the first year of manufacturing the product on the old and new machines by taking depreciation on straight line method. — 06

(b) Prepare a cash flow statement for five years by taking the cost of capital at 12% and determine the excess present value of total cash flows. Use reducing balance method of depreciation. — 06

(c) State with reasons whether the replacement proposal should be implemented or not. — 06

Q. 6 (a) The variable cost of a toy manufactured by Soft Toy Ltd., is Rs.4 and the selling price is Rs.10. The company expects its net profit for the year just ending to be Rs.275,000 after charging fixed costs amounting to Rs.85,000. The company's production capacity is not fully utilized and market research suggests three alternative strategies for the following year viz:

Strategy	**Reduce selling price by**	**Sale volume expected to increase by**
A	5%	10%
B	7%	20%
C	10%	25%

Required:

(i). Assuming the same cost structure as the current year, evaluate strategies available to the company and state which is the most profitable. — 07

(ii). Suggest other considerations which the management would probably have in mind in making its decision. — 02

Marks

(b) The Sundrop Company produces a variety of soft drinks. The company has classified its products into three basic categories.

Brand	**Selling price per bottle**	**variable cost per bottle**
Mango Do	Rs.15	Rs.14
Apple Do	Rs.12	Rs.10
Orange Do	Rs.10	Rs.04

The fixed costs of the company are Rs.380,000 annually and do not change with any change in product mix nor with total volume changes of less than 50%. During 2007 sales of Mango Do brand accounted for 50% of the company's total sales in units, sales of Apple Do were four times that of Orange Do. Total sales revenue for the year 2007 was Rs.5,000,000.

Required: Find out the following:

(i) The break-even point in Rupees and in units of each brand for 2007 based on the actually experienced sales mix. — 05

(ii) The amount which could be spent for advertisement in 2008 to increase sales of the more profitable brand so that Apple Do sales would amount for 50% of sales in bottles, Orange Do 20% and Mango Do 30% with the company will be making a profit of one and one half times that of 2007 on the same total sales revenue. — 09

PV Factor of Rupee one

Year	10%	11%	12%	13%	14%
1	0.909	0.901	0.893	0.885	0.877
2	0.826	0.812	0.797	0.783	0.769
3	0.751	0.731	0.712	0.693	0.675
4	0.683	0.659	0.636	0.613	0.592
5	0.621	0.593	0.567	0.543	0.519
6	0.564	0.535	0.507	0.480	0.456
7	0.513	0.482	0.452	0.425	0.400
8	0.467	0.434	0.404	0.376	0.351
9	0.424	0.391	0.361	0.333	0.308
10	0.386	0.352	0.322	0.295	0.270

THE END