INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF PAKISTAN

Fall (Winter) 2009 Examinations

Monday, the 23rd November 2009

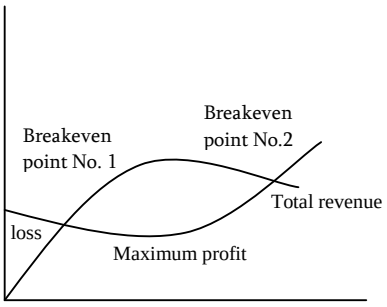
MANAGEMENT ACCOUNTING - DECISION MAKING - (S-502)
STAGE – 5

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

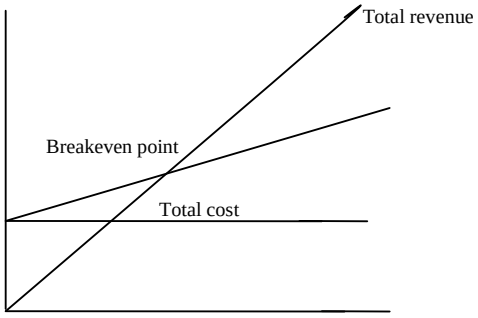
(i) Attempt all questions.
(ii) Answers must be neat, relevant and brief.
(iii) In marking the question paper, the examiners take into account clarity of exposition, logic of arguments, effective presentation, language and use of clear diagram/ chart, where appropriate.
(iv) Read the instructions printed 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) Describe the assumptions being followed by the accountants and economists in constructing break-even graph, as shown below: 06



Economist's breakeven chart



Accountant's breakeven chart

(b) The budgeted results of Best Gases Limited are as under:

Product	Sale values (Rs.)	P/V Ratio (%)
Oxygen gas	1,250,000	50
Nitrogen gas	2,000,000	40
Acetylene gas	3,000,000	30

Fixed overheads for the period are Rs.2,511,000. The management is worried about the results.

Required:

Prepare a statement showing amount of loss, if any being incurred at present and recommend a change in the sale value of each product as well as the total sale value maintaining the same sale-mix which will eliminate the said loss. 09

PTO

Q. 3 Bolan Engineering Ltd., is having a huge plant where tailor-made jobs are carried out. Recently a customer has approached them for a job as per their own specifications. Bolan Engineering Ltd., does not want to lose the customer and is ready to offer a lower price. The planning engineer was asked to prepare a material requirement as per the specifications. **Marks**

The estimated costs are as under:

		Amount in Rs.
(i)	Steel sheets 5,000 Kg at Rs.75 per Kg	375,000
(ii)	Steel rods 1,000 Kg at Rs.50 per Kg	50,000
(iii)	Spare parts,	75,000
(iv)	Employees cost:	
	Monthly rated – grade 'A' 400 hours @ Rs.50	20,000
	Monthly rated – grade 'B' 600 hours @ Rs.40	24,000
(v)	Overheads:	
	Fabrication shop 500 hours at Rs.100/hr	50,000
	Welding shop 300 hours at Rs.200/hr	60,000
	Planning engineering 200 hours at Rs.75/hr	15,000
	Design engineering 100 hours at Rs.75/hr	7,500
	Total estimated cost	676,500

Following additional information is available.

(i) The inventory of steel sheets are more than sufficient and were purchased a year ago. Present price of this item is Rs.60 per kg.

(ii) The steel rods were purchased five years back at Rs.50 per kg. Present purchase price is Rs.90 per kg. This material is already declared as non-moving and can be sold in market at Rs.75 per kg or can be substituted for alloy steel rods which are presently costing Rs.85 per kg.

(iii) The labour force is always moved from job to job depending on urgency. It is likely that the above job, if accepted, will have to be done by grade 'A' workers only.

(iv) The fabrication shop is treated as profit centre. A transfer price of Rs.100 per hour is used for charging to other shops in the workshop. The fabrication shop also carries out outsiders' jobs which are charged @ Rs.125 per hour. The transfer price is calculated as under:

Amount in Rs.

PARTICULAR	Fabrication	Welding
Variable cost per machine hour	35	80
Departmental fixed cost	30	100
Profit	35	20
Transfer price	100	200

(v) The rates of planning and design engineering are Rs.50 per hour. However, for outside consultancy work, it is a practice to charge Rs.75 per hour. The management wants to have the bare minimum cost for the job so that the opportunity of getting the order is not lost.

Required:

Revise the cost estimate using the additional information. Give reasons for each of the revised figure used in your calculations. 18

Marks

Q. 4 Dream Comforts Associates have just developed new false ceiling designs with the brand name "Dream Nights". Sales demand is very difficult to predict but is very much dependent upon the selling price.

- At a price of Rs.1500 per square metre it is estimated that the annual sales demand would be between 50,000 and 90,000 square metres per annum.
- At a price of Rs.2,000 per square metre, sales demand would be between 34,000 and 44,000 square metres per annum.
- As regards cost at production volume of 45,000 square metres or less per annum, attributable fixed cost would be Rs.10,600,000 per annum and variable cost would be Rs.1,600 per square metre.
- At higher production volumes, attributable fixed cost would increase to Rs.15,400,000 but variable costs per square metre would be only Rs.1,200.
- 'Dream Nights' has been developed at a cost of Rs.4,000,000.
- When the product is marketed, an amount of Rs.3,500,000 per annum will be charged to the operation towards head office expenses.
- The production of the new false ceiling will have to be supervised by technical engineer. In order to find time for supervision he has to give up work in another department for which he is paid a salary of Rs.50,000 per month.
- The production of 'Dream Nights' would be undertaken, in a division of the factory which is at present rented out to M/s Sun Block Ltd., – Roof Insulation makers for an amount of Rs.500,000 per quarter

Required:

Calculate the margin of safety, as a percentage of expected sales volume at both the maximum and minimum sales volume for the two price levels and decide selling price per square metre. 20

Q. 5 Indus Engineering Ltd., is considering an investment of Rs.1,125,000 on a machine having life of 4 years with no residual value. This machine will produce a product to sell at Rs.900 for a quantity of 1,000 units. The estimated cost of each unit manufactured would be as under:

	Amount in Rs.
Materials	150
Labour (10 hrs @ Rs.30 per hour)	300
Variable overheads (10 hrs @ 7.50/hr)	75
Total	525

Due to inflation, materials cost, overheads and selling price are expected to increase at the rate of 15% per annum and labour cost is expected to increase at the rate of 20% per annum.

Required:

Indicate whether the purchase of new machine (using 20% discount rate) is worthwhile in terms of its net present value? Substantiate your answer with complete computation. 15

Present value factors	
Year	**20%**
1	0.83
2	0.69
3	0.58
4	0.48

PTO

Marks

Q. 6 A company is considering investing in a new manufacturing project with the following details:

(i) Initial investment of Rs.7,000,000 with no scrap value
(ii) Expected life 10 years
(iii) Sales volume 20,000 units per year
(iv) Selling price Rs.400 per unit
(v) Variable direct costs Rs.300 per unit
(vi) Fixed costs excluding depreciation Rs.500,000 per year

The project shows an internal rate of return (IRR) of 17%. The managing director is concerned about the viability of the investment as the return is close to company's threshold rate of 15%. He advised to carry out a sensitivity analysis.

Required:

(a) Re-calculate internal rate of return assuming each of the details at (i) to (vi) above varies by 10% (treat each detail independently). 12

(b) Advise the managing director of the most vulnerable area likely to prevent meeting the company's hurdle rate. 03

(c) Explain what further work might be undertaken to improve the value of the sensitivity analysis undertaken in (a) above. 03

(d) Re-evaluate the situation if another company already manufacturing a similar product offered to supply the units at Rs.360 each; this would reduce the investment to Rs.500,000 and the fixed costs to Rs.200,000. 04

Cumulative present value factors

Year	1%	2%	3%	4%	5%	10%	11%	12%	13%	14%	15%	16%
9	8.57	8.16	7.79	7.44	7.11	5.76	5.54	5.33	5.13	4.95	4.77	4.61
10	9.47	8.98	8.53	8.11	7.72	6.14	5.89	5.65	5.43	5.22	5.02	4.83

THE END