INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF PAKISTAN

New Fall (E) 2011, April 2012 Examinations

Monday, the 23rd April 2012

MANAGEMENT ACCOUNTING–DECISION MAKING – (S-502)

STAGE-5

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

(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 Management of a shopping mall is planning for the next year (360 days) divided into three sessions: peak, mid and low. Shopping mall has 1,000 stalls, which are charged on daily basis. The stall charges (per day) are different in each of the seasons. The charges per day include utilities. Other services (refreshment and restaurant) are also available.

Details of shopping mall, its services and forecast for the next year are given below:

Season	Unit of Measurement	Peak	Mid	Low
Days	Nos.	90	120	150
Stall charges per day	Rs.	1,000	800	550
Stall occupancy	%	95	75	50
Average visitors per stall per day	Nos.	18	15	12
Total stalls revenue	Rs.	85.5 million	72.0 million	41.25 million
Per visitor cost	Rs.	12	12	12
Per stall cost	Rs.	80	90	110
Refreshment stall usages by visitors	%	10	30	30
Refreshment contribution per visitor	Rs.	3	3	3
Restaurant usages by visitors	%	30	50	70
Restaurant contribution per visitor	Rs.	3.75	5	7.50
Stalls fixed cost	Rs.	30 million	40 million	50 million
Refreshment fixed cost	Rs. 2.0 million per year			
Restaurant fixed cost	Rs. 5.4 million per year			

Other Information:

(i) Refreshment stall (Rs. 2 million) and restaurant (Rs. 5.4 million) fixed cost could be made redundant with no redundancy cost, if refreshment stall and restaurant were to close temporarily for one or more seasons of the year.

(ii) Other fixed cost could be reduced by 75%, if the shopping mall were to close temporarily for one or more seasons of the year.

(iii) There are also some costs that are incurred by the shopping mall and can only be avoided if it is permanently closed. These costs are estimated to Rs. 20,000,000 for next year.

Required:

(a) Prepare a profitability statement for the next year. Your statement should show the shopping mall's each activity by seasons and in total. **18**

(b) Identify the action that management could take to maximize the profit. **03**

(c) Explain two factors that the management should consider before implementing the actions which you suggested in (b) above. **04**

PTO

Marks

Q. 3 MB Co., is a local small textile mill. It has been asked to provide textile supplies for an international buyer. Management believes that this order may provide an opportunity to enter in international market. As a result they intend to make this deal finalized by offering lowest price.

Detail of cost required to produce supplies are here under:

- A regular in use fabric of 5,000 meters will be required. Currently 8,000 meters of fabric is in stock originally purchase at Rs. 12 per meter. Replacement cost for this fabric is Rs. 12.50 per meter and resale value is Rs. 10.50.
- 1,500 Kgs special dyes and chemical only useable for this order will be required, minimum order quantity is 2,000 Kgs at Rs. 9 per Kg.
- Other direct cost for this order will be Rs. 150,000. Total overall other cost will decrease by 3% with a net benefit of Rs. 30,000 to this order.
- Overall labour supervision cost is Rs. 12,000 per 8-hour day.
- A total of 500 direct labour hours will be required. The current wage rate for trained labours is Rs. 11 per hour. Currently 75 hours are in spare for fix contractor agreement. The additional hours would be obtained by either:
  - Overtime at a cost of Rs. 14 per hour, or
  - Hiring temporary staff at a cost of Rs. 12 per hour.
- Temporary staffs need to be supervised 10 hours by existing supervisors.
- 400 machine hours will be required. The machine to be used is already leased at a cost of Rs. 6,000 per day. Variable running cost of this machine is Rs. 7 per hour.
- The company absorbs its fixed cost using an absorption rate of Rs. 20 per direct labor hour.

Required:

What will be the minimum price for this offer at 10% margin on total cost? Explain each case. **10**

Q. 4 **(a)** ARS Manufacturing Co., is considering to purchase a new equipment. New equipment is expected to cost Rs. 20 million in total and has a useful life of five years with no residual value. Fixed cost excluding sum-of-year-digit depreciation, are expected to increase by Rs. 1 (one) million in the first year, as a result of business growth, fixed cost will remain at the higher level for the life of equipment. The company uses cost of capital @ 25% per annum and its tax rate is 40%.

Forecasted (based on January 2012) contribution margin, fixed cost and inflation rate are as under:

Rs. in '000'

Year	2012	2013	2014	2015	2016
Contribution margin	10,000	11,000	9,000	9,000	10,000
Fixed cost increase	1,000	1,000	1,000	1,000	1,000
Inflation	10%	8%	7%	6%	5%

Required:

Advise the management whether it should purchase the new equipment or not. **15**

(b) ARS Manufacturing Co., has also other investment opportunities (A, B, C and D) for next five years. The initial investment, internal rate of return (IRR) and net present value (NPV), based on a cost of capital @ 25%, are given below:

Options	Cost (Rs. 'million')	NPV (Rs. 'million')	IRR
A	100	23.50	15.26%
B	70	18.36	11.25%
C	50	12.60	10.30%
D	30	7.26	12.63%

Marks

Funding for the company is restricted to Rs. 200 million including purchase of equipment. The options are independent and divisible i.e., part of an option can be undertaken.

Required:

Prioritise the options and determine how much funding should be allocated to each option. **05**

(c) What is the essence of discounted cash flow (DCF) techniques? Briefly discuss. **05**

Q. 5 SET Co., makes a variety of motor-driven products for homes and small businesses. The market research department recently identified power lawn mowers as a potentially lucrative market. As a first entry into this market, SET is considering a riding lawn mower that is smaller and less expensive than those of most of competitors. Market research indicates that such a lawn mower would sell for Rs. 8,000 wholesales. At that price, SET expects life cycle sales as follows:

Year	2012	2013	2014	2015	2016	2017	2018
Units	1,000	5,000	10,000	10,000	8,000	6,000	4,000

The production department has estimated that the variable cost of production will be Rs. 4,750 per lawn mower, and annual fixed cost will be Rs. 9,000,000 per year for each of the 7 years. Variable selling costs will be Rs. 250 per lawn mower and fixed selling cost will be Rs. 500,000 per year. In addition, the product development department estimates that Rs. 5 million of development costs will be necessary to design the lawn mower and the production process for it. This cost will be charged over the life of the product on the basis of sales units of each year. SET expects pre-tax profit equal to 10% of sales.

Required:

(a) Compute the expected year wise profit over the entire life of the product. **08**

(b) What will be the minimum prices that should be offered? **04**

(c) SET uses a target costing approach to new product. What steps would management take to make the product profitable? **03**

Q. 6 MV Hospital has 15 consultants on fixed monthly salary of Rs. 82,500 per consultant. Other monthly fixed costs are Rs. 500,000 per month with 24 working days per month. MV Hospital only deals in consultancy services and charges average fee of Rs. 600 per patient per visit.

Required:

(a) Calculate contribution margin and determine the number of visits at breakeven point and the monthly operating income at 4,000, 3,000 and 2,000 consultancies' levels. **05**

(b) Suppose MV Hospital revises the compensation method. Calculate contribution margin and determine the number of visits at breakeven point and the monthly operating income at 4,000, 3,000 and 2,000 consultancies' levels under each of the following two options:

(i) The consultants will receive a fixed payment of Rs. 1,000 per working day and Rs. 300 per patient per visit. **05**

(ii) Only Rs. 350 per visit per patient will be paid to the consultants. **04**

(c) Offer your comments on the Hospital's profitability. **01**

THE END

PRESENT VALUE TABLES ON PAGE 4

PRESENT VALUE FACTOR											
Year	**20%**	**21%**	**22%**	**23%**	**24%**	**25%**	**26%**	**27%**	**28%**	**29%**	**30%**
1	0.833	0.826	0.820	0.813	0.806	0.800	0.794	0.787	0.781	0.775	0.769
2	0.694	0.683	0.672	0.661	0.650	0.640	0.630	0.620	0.610	0.601	0.592
3	0.579	0.564	0.551	0.537	0.524	0.512	0.500	0.488	0.477	0.466	0.455
4	0.482	0.467	0.451	0.437	0.423	0.410	0.397	0.384	0.373	0.361	0.350
5	0.402	0.386	0.370	0.355	0.341	0.328	0.315	0.303	0.291	0.280	0.269
6	0.335	0.319	0.303	0.289	0.275	0.262	0.250	0.238	0.227	0.217	0.207
7	0.279	0.263	0.249	0.235	0.222	0.210	0.198	0.188	0.178	0.168	0.159
8	0.233	0.218	0.204	0.191	0.179	0.168	0.157	0.148	0.139	0.130	0.123
9	0.194	0.180	0.167	0.155	0.144	0.134	0.125	0.116	0.108	0.101	0.094
10	0.162	0.149	0.137	0.126	0.116	0.107	0.099	0.092	0.085	0.078	0.073

CUMULATIVE PRESENT VALUE FACTOR											
Year	**20%**	**21%**	**22%**	**23%**	**24%**	**25%**	**26%**	**27%**	**28%**	**29%**	**30%**
1	0.833	0.826	0.820	0.813	0.806	0.800	0.794	0.787	0.781	0.775	0.769
2	1.528	1.509	1.492	1.474	1.457	1.440	1.424	1.407	1.392	1.376	1.361
3	2.106	2.074	2.042	2.011	1.981	1.952	1.923	1.896	1.868	1.842	1.816
4	2.589	2.540	2.494	2.448	2.404	2.362	2.320	2.280	2.241	2.203	2.166
5	2.991	2.926	2.864	2.803	2.745	2.689	2.635	2.583	2.532	2.483	2.436
6	3.326	3.245	3.167	3.092	3.020	2.951	2.885	2.821	2.759	2.700	2.643
7	3.605	3.508	3.416	3.327	3.242	3.161	3.083	3.009	2.937	2.868	2.802
8	3.837	3.726	3.619	3.518	3.421	3.329	3.241	3.156	3.076	2.999	2.925
9	4.031	3.905	3.786	3.673	3.566	3.463	3.366	3.273	3.184	3.100	3.019
10	4.192	4.054	3.923	3.799	3.682	3.571	3.465	3.364	3.269	3.178	3.092