MANAGEMENT ACCOUNTING-DECISION MAKING – STAGE-5

Q. 2 (a) **The Shopping Mall**
Planning for the next year

	Peak	Mid	Low	Total	Marks
Days	90	120	150	360	
Stalls	950	750	500	2,200	
Visitors	18	15	12	45	
Per Stall Charges (Rs.)	80	90	110		
Refreshment Visitor %	10%	30%	30%		
Restaurant Visitor %	30%	50%	70%		
Refreshment CM per Visitor (Rs.)	3	3	3		
Restaurant CM per Visitor (Rs.)	3.75	5	7.5		
Total visitors	1,539,000	1,350,000	900,000	3,789,000	1
Total Stalls	85,500	90,000	75,000	250,500	1
Stall Revenue	85,500,000	72,000,000	41,250,000	198,750,000	1
Visitor related cost (Rs.12 per Visitor)	18,468,000	16,200,000	10,800,000	45,468,000	1
Stall Cost	6,840,000	8,100,000	8,250,000	23,190,000	1
Avoidable other Fixed Cost	22,500,000	30,000,000	37,500,000	90,000,000	1
Total Stall Cost	47,808,000	54,300,000	56,550,000	158,658,000	1
Stall Contribution	**37,692,000**	**17,700,000**	**(15,300,000)**	**40,092,000**	1
Refreshment Contribution	461,700	1,215,000	810,000	2,486,700	1
Refreshment Fixed Cost	500,000	666,667	833,333	2,000,000	1
Refreshment Contribution	**(38,300)**	**548,333**	**(23,333)**	**486,700**	1
Restaurant Contribution	1,731,375	3,375,000	4,725,000	9,831,375	1
Restaurant Fixed Cost	1,350,000	1,800,000	2,250,000	5,400,000	1
Restaurant Contribution	**381,375**	**1,575,000**	**2,475,000**	**4,431,375**	1
Total Contribution	**38,035,075**	**19,823,333**	**(12,848,333)**	**45,010,075**	
Unavoidable other fixed Cost	7,500,000	10,000,000	12,500,000	30,000,000	1
Net Contribution	**30,535,075**	**9,823,333**	**(25,348,333)**	**15,010,075**	
Shopping Mall Annual Fixed Cost				(20,000,000)	
Shopping Mall Annual Profit				**(4,989,925)**	1
Presentation					2

Marks

Q. 2 (b) Action that management should take:

The statement shows that overall the shopping mall makes a loss. However further analysis shows that certain actions could make the shopping mall profitable.

The statement shows that the shopping mall makes a significant loss during the low season and therefore if it were to be closed for this part of the year the shopping mall would then be profitable. 1.5

Furthermore the refreshment service is only profitable during the mid season so if the service were to be closed during the other seasons of the year this would also add to the shopping mall's profitability. 1.5

(c) However, there are other factors to be considered before making the above short term changes. If the refreshment service were to be closed for parts of the year could it easily be re-opened just for the mid season or if it were to be closed entirely would this encourage more visitors to use the restaurant? 2

If the shopping mall were to be closed in the low season would the shopping mall retain its popularity during the other parts of the year or would its regular visitors feel that the shopping mall was not customer focused and only interested in its own profits thus reducing the shopping mall's demand in other seasons? 2

Q. 3 Minimum price for the offer at 10% margin:

Working:

		Amount	
Fabric (5,000 x 12.50)		62,500	1
Dye and Chemical (2,000 x 9)		18,000	1
Other direct cost (150,000 - 30,000)		120,000	
Labor Cost			
(425 x 12)	5,100		
(75 x 11)	825		
Total		5,925	2
Machine Cost (400 x 7)		2,800	1
Total Relevant Cost		209,225	1
Profit Margin		20,923	
Price to be offered		230,148	1

Note:

1. Fabric will be at replacement cost as it regular in use. 1
2. Dyes and chemical will be totally expensed out. 0.5
3. Other direct cost will be after overall advantage. 0.5
4. Machine lease cost is irrelevant. 0.5
5. Fixed cost is irrelevant. 0.5

Marks

Q. 4 ARS Manufacturing Co.: !

(a) Pre-tax operating cash saving with effect of inflation:! !

Rs. in million

Year	CM Rs. (m)	Other Fixed Cost	CM net of other cost	Inflation %	Factor	EBITDA
2012	10	1	9	10%	1.10	9.90
2013	11	1	10	8%	1.19	11.88
2014	9	1	8	7%	1.27	10.17
2015	9	1	8	6%	1.35	10.78
2016	10	1	9	5%	1.41	12.73
			2.5 +		2.5 +	3 = 8

Year	EBITDA	Depreciation	EBT	EAT @ (1 40%)	Cash Flow	PV Factor 25%	PV	
2012	9.90	6.67	3.23	1.94	8.61	0.8000	6.89	1
2013	11.88	5.33	6.55	3.93	9.26	0.6400	5.93	1
2014	10.17	4.00	6.17	3.70	7.70	0.5120	3.94	1
2015	10.78	2.67	8.11	4.87	7.53	0.4096	3.09	1
2016	12.73	1.33	11.40	6.84	8.17	0.3277	2.68	1
	55.46	20.00	35.46	21.28	41.28		22.52	
	Initial Investment						20.00	
	NPV						2.52	1

Year	Cost Rs. (m)	SOYD Factor	Depreciation	
2012	20	5/15	6.67	
2013	20	4/15	5.33	
2014	20	3/15	4.00	1
2015	20	2/15	2.67	
2016	20	1/15	1.33	

(b) Prioritise the options and funding should be allocated to each option:! !

Options	Cost (Rs. 'million')	NPV (Rs. 'million')	Profitability Index	Ranked	Investment Allocation	
A	50	11.75	1.24	4	50.00	1
B	70	18.36	1.26	1	70.00	1
C	50	12.60	1.25	2	50.00	1
D	30	7.26	1.24	3	30.00	1
					200.00	1

Marks

Q. 4 (c) Discounted Cash Flow:

- Discounted cash flow (DCF) methods measure all expected future cash inflows and outflows of a project discounted back to the present period.
- The key feature of DCF methods is the time value of money, which means that a rupee (or any other monetary unit) received today is worth more than a rupee received at any future time.
- The reason is that Rs.10 received today can be invested at, say10% per year so that it grows to Rs.11 at the end of year-one.
- The time value of money is the opportunity cost (the return of Re.1 forgone per year) of not having the money today.
- Both DCF methods use what is called the required rate of return (RRR), the minimum acceptable annual rate of return on an investment.
- The RRR is internally set and reflects the return that an organization could expect to receive elsewhere for an investment of comparable risk.

1 mark for 5 points = 5

Q. 5 (a)

SET Co.

Expected year wise profit over the entire life of product

Year	Per Unit	2012	2013	2014	2015	2016	2017	2018	Total
Unit Sold		1,000	5,000	10,000	10,000	8,000	6,000	4,000	44,000
									Rs. '000
Variable Cost of Production	4,750	4,750	23,750	47,500	47,500	38,000	28,500	19,000	209,000
Variable Cost of Sales	250	250	1,250	2,500	2,500	2,000	1,500	1,000	11,000
Total Variable Cost		5,000	25,000	50,000	50,000	40,000	30,000	20,000	220,000
Fixed Cost Total (production + selling)		9,500	9,500	9,500	9,500	9,500	9,500	9,500	66,500
Development cost		114	568	1,136	1,136	909	682	455	5,000
Total Fixed Cost		9,614	10,068	10,636	10,636	10,409	10,182	9,955	71,500
Total Cost		14,614	35,068	60,636	60,636	50,409	40,182	29,955	291,500
Market price (Wholesale)	8,000	8,000	40,000	80,000	80,000	64,000	48,000	32,000	352,000
Profit as per market price		(6,614)	4,932	19,364	19,364	13,591	7,818	2,045	60,500
Year-wise profit %		-82.67%	12.33%	24.20%	24.20%	21.24%	16.29%	6.39%	17.19%

1 mark for each year and 1 mark for total = 8

Marks

(b) Minimum price that should be offered: !

		Rs. '000'	
Variable cost of production	(44,000 x 4,750)	209,000	0.5
Fixed cost of production	(9,000 x 7 years)	63,000	0.5
Variable selling cost	(44,000 x 250)	11,000	0.5
Fixed selling cost	(500 x 7 years)	3,500	0.5
Development cost		5,000	
Total cost		291,500	
Sale (291,500 ÷ 0.9)		323,889	0.5
No. of units to produced		44,000	
Minimum price	**Rs.**	**7,361**	0.5
Cost per unit (291,500,000 ÷ 44,000)		6,625	0.5
Pretax profit (10% of sales price)	Rs.	736	0.5

(c) Target Costing Process /Steps: !

1. Price (set by market) 0.5
2. Gross Margin (set by management) 0.5
3. Study the existing cost structure 0.5
4. Target cost structure by cost reduction methods
   (a) Value Engineering (during design and development) 0.5
   (b) Kaizen Costing (during production) 0.5
   (c) Activity based Management (during all stages of product life) 0.5

Marks

Q. 6 (a) & (b) **MV Hospital** !

	Existing		Options			
	Fixed Pay		**Semi Variable Pay**		**Variable Pay**	
Other Fixed Cost	500,000		500,000		500,000	
Fixed Pay =15*82,500	1,237,500	=15*24*1,000	360,000		-	
Total Fixed Cost	1,737,500		860,000		500,000	
Consultancy Fee per visit	600		600		600	
Variable Cost Per Visit	-		300		350	
Contribution Margin	600		300		250	
Break Even Point in Visits	2,896		2,867		2,000	
	3	+	3	+	3 =	9
Operating income if 4,000 visits:						
Fee's Revenue	2,400,000		2,400,000		2,400,000	
Variable Cost	-		1,200,000		1,400,000	
Total Contribution Margin	2,400,000		1,200,000		1,000,000	
Fixed Cost	1,737,500		860,000		500,000	
Operating Profit	662,500		340,000		500,000	
	0.5	+	0.5	+	0.5	1.5
Operating income if 3,000 visits:						
Fee's Revenue	1,800,000		1,800,000		1,800,000	
Variable Cost	-		900,000		1,050,000	
Total Contribution Margin	1,800,000		900,000		750,000	
Fixed Cost	1,737,500		860,000		500,000	
Operating Profit	62,500		40,000		250,000	
	0.5	+	0.5	+	0.5 =	1.5
Operating income if 2,000 visits:						
Fee's Revenue	1,200,000		1,200,000		1,200,000	
Variable Cost	-		600,000		700,000	
Total Contribution Margin	1,200,000		600,000		500,000	
Fixed Cost	1,737,500		860,000		500,000	
Operating Profit (Loss)	(537,500)		(260,000)		0	
	0.5	+	0.5	+	0.5 =	1.5
					Presentation =	0.5
	OR 5	+	5	+	4 =	14

(c) Comments on hospital profitability: !

	Existing	Options	
	Fixed Pay	**Semi Variable Pay**	**Variable Pay**
Operating income if 4,000 visits	662,500	340,000	500,000
Operating income if 3,000 visits	62,500	40,000	250,000
Operating income if 2,000 visits	(537,500)	(260,000)	0

- Fixed pay method is viable at 4,000 and 3,000 visits.
- Semi variable pay method is not viable as compared to other options.
- Variable pay method is viable at each level of visitors.

1

THE END