



CA Final SFM

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Analysis & Suggested Answers - May 2017 SFM Paper

CHAPTERWISE ANALYSIS

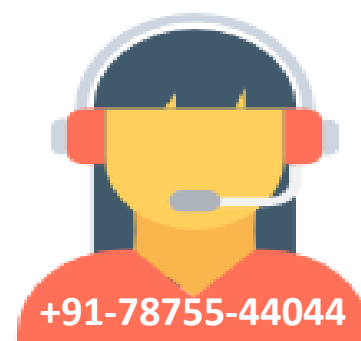
Topics	Marks	%
Portfolio Management	33	28%
Mergers & Acquisitions	20	17%
Capital Budgeting	9	8%
Derivatives	9	8%
Factoring Services	8	7%
Forex	8	7%
Leasing Decisions	8	7%
Money Market Instruments	8	7%
Security Analysis	8	7%
Dividend Decisions	5	4%
Other	4	3%
Grand Total	120	100%

SOURCE OF THE PAPER

Source	Marks	%
Practice Manual	63	53%
Study Material	29	24%
RTP May 2016	12	10%
Other	8	7%
Supplementary	8	7%
Total	120	100%

Facts for the Knowledge

1. 45% of the paper has been asked from Portfolio Management and Mergers chapter
2. The paper was easy
3. Lots of questions were copy paste with only change in figures.
4. Around 90% paper was from ICAI Material only.



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Share Knowledge

Share Happiness

Q1 (a)

(i) Current Portfolio Beta

Asset	Investment in Lakhs	Weight	Beta	W x B
Cash	10	0.0769	0	0
Shares	120	0.9231	1.4	1.29
	130	1		1.29

(ii) Portfolio Beta after 4 months

After 4 months the shares prices has dropped by 1.8% and the share beta is 1.4 , means the change in the market will be $1.8/1.4 = 1.29\%$ Fall.

Since we have taken a Long Position in market (index futures) worth ₹130 lakhs. Due to a fall of 1.29% in the market, there will be loss in the futures position worth ₹130 x 1.29% = 1.6770 lakhs. This Long futures position will be closed by paying ₹1.6770 lakhs from cash. Hence cash after 4 months will reduce by ₹1.6770 lakhs and shares will drop by 1.8%

New Position of the Portfolio

Asset	Investment
Cash	10-1.6770
Shares	120*(1-0.018)
	126.1700

The value of the portfolio has dropped from 130 lakhs to 126.17 lakhs i.e 2.95%. At the same time market has dropped by 1.29%. Hence after 4 months the **portfolio beta** is $2.95/1.29 = 2.29$

Q1 (b)

Net Profit	50
Less: Preference Dividend 10%	8
Earnings for Equity	42
No. of shares	5
EPS	8.4

Let x be the dividend payout ratio at which the market price is ₹56 using Walters Model

$$\begin{aligned} \text{MP} &= \frac{\text{DPS} + \frac{\text{Roi}}{\text{Ke}} (\text{EPS} - \text{DPS})}{\text{Ke}} \\ 56 &= \frac{8.4x + \frac{0.15}{0.12} (8.4 - 8.4x)}{0.12} \\ 56 &= \frac{8.4x + 10.5 - 10.5x}{0.12} \\ 6.72 &= 10.5 - 2.1x \\ x &= 1.8 \end{aligned}$$

Thus Dividend Payout Ratio should be 180% of EPS so that the MP should be ₹56.

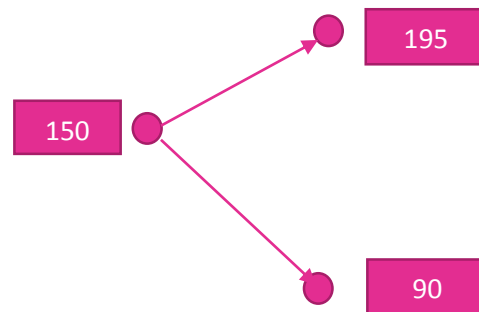
Q1 (c)

This question is based on the Binomial Model, where we need to find out the value of the abandonment option (Put Option)

Value at time =0,

$S_0 = 150$ Crores

Value at time =1, $S_u = 195$ Crores or $S_d = 90$ Crores



In case the market is favorable, we will choose to operate and the abandonment will have no value, It is best to exercise the abandonment right for the project and receive ₹100 crores if the market is sluggish and 1 year from now.

Probability using the volatility approach

$$p = \frac{(1 + r) - d}{u - d}$$

$$p = \frac{1.08 - \frac{90}{150}}{\frac{195}{150} - \frac{90}{150}}$$

$$p = 68.57\%$$

Value of the Put Option

Market Condition	PV	Abandonment Right	Abandonment Value	Prob.	Expected value
Favorable	195	Lapse	0	0.6857	0
Sluggish	90	Exercise	10	0.3143	3.143
			[100-90]		3.143

PV of Put Option = $3.143/1.08 = ₹2.91$ Crores

Q1 (d)

		(in lakhs)
Revenue	\$200 x ₹67	13400
Less: Costs:		
Rent	20	
Manpower 600 x 160 x 10 x 360	3456	
Administrative and other costs	24	3500
Earnings before tax		9900
Less: Tax		2970
Earnings after tax		6930
Less: Withholding tax(TDS)		693
Repatriation amount (in rupees)		₹6237
Repatriation amount (in dollars)		\$93.09

Advise: The cost of development software in India for the US based company is \$106.91 lakhs (200-93.09). As the USA based Company is expected to sell the software in the US at \$240 lakhs, it is advised to develop the software in India.

Q2 (a)

(i)

Dirty Price = Clean Price + Interest Accrued

Dirty Price = ₹99.42 + 100 x 10% x 262/360

Dirty Price = ₹106.70

(ii)

Start Proceeds = Nominal Value x $\frac{\text{Dirty Price}}{100}$ x $\frac{100 - \text{Initial Margin}}{100}$

Start Proceeds = 8,00,00,000 x $\frac{106.70}{100}$ x $\frac{100 - 2}{100}$

Start Proceeds = 8,36,52,800

Repayment at Maturity = Start Proceeds x $\left(1 + \text{Repo Rate} \times \frac{\text{No. of days}}{360}\right)$

$$\text{Repayment at Maturity} = 8,36,52,800 \times \left(1 + 0.0565 \times \frac{14}{360}\right)$$

$$\text{Repayment at Maturity} = 8,38,36,604$$

Q2 (b)

Stock Price	Cost	Return(₹)	Return(%)	Prob.	$R_i \times P$	$R_i - \bar{R}_i$	$P \times (R_i - \bar{R}_i)^2$
130	150	-20	-13.33	0.2	-2.67	-20.00	79.98
150	150	0	0	0.1	0.00	-6.67	4.45
160	150	10	6.67	0.1	0.67	0.00	0.00
165	150	15	10	0.3	3.00	3.33	3.33
175	150	25	16.67	0.1	1.67	10.00	10.00
180	150	30	20	0.2	4.00	13.33	35.55
					6.67%		133.31

1. Expected Return = 6.67%

2. Standard Deviation = $\sqrt{133.31} = 11.55\%$

Q2 (c)

Commercial Paper

Issue Price	5000000
Less Interest	250000
Issue Expenses	2000
Minimum Balance	200000
	4548000

$$\text{Cost of the funds} = \frac{(250000 + 2000)(1 - 0.30)}{45,48,000} \times \frac{12}{4} = 11.64\% \text{ per annum}$$

Q3 (a)

Decision table

Option	WN	PV of Total Cost
Borrowing	1	1744304
Leasing	3	1585584

As the cost of leasing is less than the cost of borrowing, SD Ltd. should opt for Leasing Option.

WN 1 Borrowing Option

Opening	Interest	Principal	Closing	Instalment	Tax Saving on Int.	Tax saving on Dep	Net Cash Flow	PVF@ 14%	PV
2500000	300000	500000	2000000	800000	102000	170000	528000	0.877	463056
2000000	240000	500000	1500000	740000	81600	136000	522400	0.769	401726
1500000	180000	500000	1000000	680000	61200	108800	510000	0.675	344250
1000000	120000	500000	500000	620000	40800	87040	492160	0.592	291359
500000	60000	500000	0	560000	20400	69632	469968	0.519	243913
									1744304

Note: In the absence of salvage value of the machine, capital gain or loss has been ignored.

WN 2 Depreciation Schedule

Year	Opening	Depreciation	Closing	Tax Saving
1	2500000	500000	2000000	170000
2	2000000	400000	1600000	136000
3	1600000	320000	1280000	108800
4	1280000	256000	1024000	87040
5	1024000	204800	819200	69632
Total				

WN 3 Leasing Option

Year	Particulars	Cash Flows	PVAF	PV
1 to 5	After tax lease rentals	462000	3.432	1585584

(i) Conversion value of preference share

Conversion Ratio x Market Price

$$2 \times 42 = 84$$

(ii) Conversion Premium

$$(100/84) - 1 = 19.05\%$$

(iii)**Effect of the issue on the basic EPS****Before Conversion**

Total (after tax) earnings $6 \times ₹10,00,000$	6000000
Dividend on Preference shares	640000
Earnings available to equity holders	5360000
No. of shares	1000000
EPS	<u>5.36</u>

On Diluted Basis

Earnings	6000000
No of shares (10,00,000 + 1,60,000) EPS	1160000
	<u>5.17</u>

(iv)**Effect on EPS with increase in Profits****Before Conversion**

Total (after tax) earnings	8000000
Dividend on Preference shares	640000
Earnings available to equity holders	7360000
No. of shares	1000000
EPS	<u>7.36</u>

On Diluted Basis

Earnings	8000000
No of shares (10,00,000 + 1,60,000) EPS	1160000
	<u>6.90</u>

Krishna Ltd

Year	Krishna	Capital App.	Dividend	Return (₹)	Return (%)
2012	245				
2013	253	8	22	30	12.24%
2014	310	57	25	82	32.41%
2015	330	20	30	50	16.13%

Market Index

Year	Market	Capital App.	CG (%)	Divided Yield (%)	Return (%)
2012	2013				
2013	2130	117	5.81%	5%	10.81%
2014	2350	220	10.33%	6%	16.33%
2015	2580	230	9.79%	7%	16.79%

Beta using Regression Analysis

Year	X	Y	XY	Y ²
1	12.24	10.81	132.31	116.86
2	32.41	16.33	529.26	266.67
3	16.13	16.79	270.82	281.90
	$\bar{X} = 20.26$	$\bar{Y} = 14.64$	932.39	665.43

$$\beta = \frac{\sum XY - n \bar{X} \bar{Y}}{\sum Y^2 - n \bar{Y}^2}$$

$$\beta = \frac{932.39 - 3 \times 20.26 \times 14.64}{665.43 - 3 \times 14.64^2} = \frac{42.57}{22.44} = 1.90$$

Observation: 1.90 is considered as high beta, impact on the returns of the Krishna Ltd. will be almost twice as much as the impact on the market.

Q5 (a)

Portf olio	$\beta = \frac{r_{pm} \times \sigma_p}{\sigma_m}$	Jensen's Alpha $R_p - [R_f + \beta(R_m - R_f)]$	Rank
A	1.70	20-17.24 =2.76	II
B	1.00	17-14.30 =2.70	III
C	0.80	18-13.46 =4.54	I
D	1.30	16-15.56 =0.44	IV
E	0.86	13.50-13.72 =-0.22	*No Rank*

Q5 (b)

Impact of Financial Restructuring

i)

Benefits to XYZ Ltd.

Reduction of liabilities payable

Reduction in equity share capital (50 lakh shares x 8 per share)	400
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Reduction in preference share capital (10 lakh shares x 5 per share)	50
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Waiver of outstanding debenture Interest	12
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Waiver from trade creditors (300 lakhs x 0.20)	60
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	<u>522</u>
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Revaluation of Assets

Appreciation of Land and Building (350 lakhs - 150 lakhs)	200
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	<u>722</u>
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Amount of 722 Lakhs will be used to write off losses,
factious assets and over- valued assets.

Writing off profit and loss account	480
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Cost of issue of debentures	7
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Preliminary expenses	15
Provision for bad and doubtful debts	5
Revaluation of Plant and Machinery (200 lakhs – 150 lakhs)	50
	<u>557</u>
Balance in Capital Reserve Account [722-165]	165

ii)

Balance sheet of XYZ Ltd as at _____ (after re-construction)

Liabilities	Amount	Assets	Amount
100 Lakhs Equity Shares of ₹2 each	200	Land and Building	350
10 Lakhs 9% Preference Shares of ₹5 each	50	Plant and Machinery	150
		Furniture and	
Capital Reserve	165	Fixtures	60
10% Debentures	100	Inventory	60
Loan from Bank	60	Sundry Debtors	45
Sundry Creditors	240	Cash at Bank	150
	815		815

*Cash Balance – 50(old) + 100(new issue) = 150

Q6(a)

Cost to importer in respect to extension of Forward Contract

The contract is to be cancelled on 31. 10. 2015 at the spot buying rate

Contract Selling Rate (from bank's angle)		61.00
Spot Buying Rate	60.32	
Less: Margin @0.086%	0.0519	
	<u>60.2681</u>	round off to
		<u>60.27</u>

Loss to the Importer (or gain to the bank) ₹/\$

Contracted Value	\$25,000
Cost to the importer for extension of forward contract	18250
New Forward Rate	
Spot Selling Rate (from bank's angle)	60.63
Add: 6 months Premium @0.98%	0.5942
	61.2242
Add: Selling Margin @0.15%	0.0918
New Forward Rate	61.3160

Q6 (b)

a) Swap Ratio

Gross NPA	5 : 40	$5/40 \times 40\%$	0.050
CAR	2 : 16	$2/16 \times 10\%$	0.013
Market			
Price	4 : 64	$4/64 \times 40\%$	0.025
Book Value	15 : 120	$15/120 \times 10\%$	0.013
			0.10

Thus for every share of Bank 'XML' 0.10 share of Bank 'ZML' shall be issued.

*Book value

$$\text{XML} = (70+35)/7 = 15$$

$$\text{ZML} = (250+2750)/25 = 120$$

b) No. of shares to be issued

$$70/10 \times 0.10 = 0.70 \text{ Crores}$$

c) Balance Sheet after merger

Calculation of the capital reserve	
Book value of the shares (70+35)	105
Less: Value of the shares issued	7
Capital Reserve	98

Balance sheet of ZML

Liabilities	Amount	Assets	Amount
Paid up share capital	257	Cash in hand and with RBI	1450
Reserve and Surplus	2750	Balance with other banks	1000
Capital Reserve	98	Investment	8050
Deposits	22000	Advances	15250
Other Liabilities	1695	Other Assets	1050
	26800		26800

Q7 (a)

What Makes an organization Financial Sustainable

- ✓ There is no agreed definition of what financial sustainability is, but it is about being able to be there for your beneficiaries in the long term. It is the opposite of having to cease your activities simply because you have run out of money. Here is one definition
- ✓ An organisation is financially sustainable if its core work will not collapse, even if external donor funding is withdrawn
- ✓ Indicators of financial sustainability
 - Developing and maintaining strong stakeholder relationships, including beneficiaries, staff and donors
 - Obtaining a range of types of funding, including unrestricted funds
 - Building financial reserves
 - Assessing and managing risks
 - Strategically managing and financing overhead costs

Q7 (b)

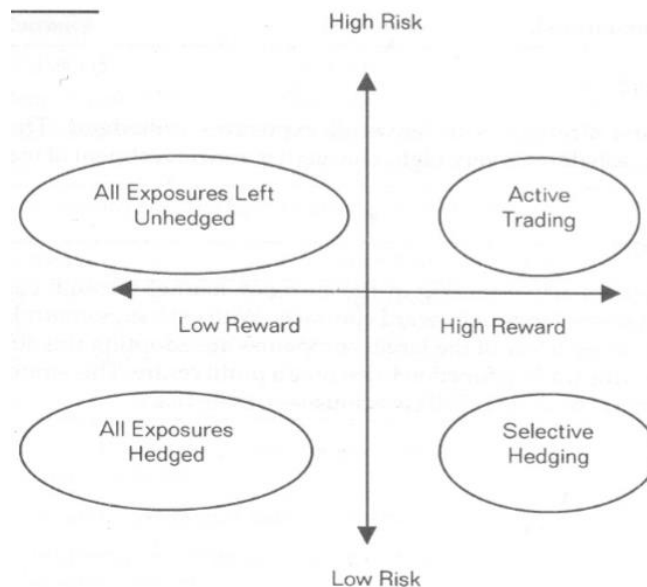
Distinguish between Cash and Derivative Market

Basis	Cash Market	Derivative Market
Assets traded	In cash market tangible assets are traded	In derivative market contracts based on tangible or intangibles assets like index or rates are traded.
Quantity Traded	In cash market, we can purchase even one share	In Futures and Options minimum lots are fixed.
Risk	Cash market is more risky	Futures and Options segment are less risky as compared to the cash market
Purpose	Cash assets may be meant for consumption or investment.	Derivative contracts are for hedging, arbitrage or speculation.
Amount Required	Buying securities in cash market involves putting up all the money upfront	Buying futures simply involves putting up the margin money.
Ownership	With the purchase of shares of the company in cash market, the holder becomes part owner of the company.	While in future it does not happen.

Q7 (c)

Main Strategies for Exposure Management

There can be no single strategy which is appropriate to all businesses. Four separate strategy options are feasible for exposure management.

**Low Risk: Low Reward:**

- ✓ This option involves automatic hedging of exposures in the forward market as soon as they arise, irrespective of the attractiveness or otherwise of the forward rate.
- ✓ The merits of this approach are that yields and costs of the transaction are known and there is little risk of cash flow destabilization.
- ✓ Again, this option doesn't require any investment of management time or effort. The negative side is that automatic hedging at whatever rates are available is hardly likely to result into optimum costs.

Low Risk: Reasonable Reward:

- ✓ This strategy requires selective hedging of exposures whenever forward rates are attractive but keeping exposures open whenever they are not.
- ✓ Successful pursuit of this strategy requires quantification of expectations about the future and the rewards would depend upon the accuracy of the prediction.

- ✓ This option is similar to an investment strategy of a combination of bonds and equities with the proportion of the two components depending on the attractiveness of prices.
- ✓ In foreign exchange exposure terms, hedged positions are similar to bonds (known costs or yields) and unhedged ones to equities (uncertain returns).

High Risk: Low Reward:

- ✓ Perhaps the worst strategy is to leave all exposures unhedged.
- ✓ The risk of destabilization of cash flows is very high.
- ✓ The merit is zero investment of managerial time or effort.

High Risk: High Reward:

- ✓ This strategy involves active trading in the currency market through continuous cancellations and re-bookings of forward contracts.
- ✓ With exchange controls relaxed in India in recent times, a few of the larger companies are adopting this strategy.
- ✓ In effect, this requires the trading function to become a profit center. This strategy, if it has to be adopted, should be done in full consciousness of the risks.

Q7 (d)**Simulation Analysis and its benefits**

A simulation consists of many -- often thousands of -- trials. Each trial is an experiment where we supply numerical values for input variables, evaluate the model to compute numerical values for outcomes of interest, and collect these values for later analysis.

Benefits

- ✓ Study the behavior of a system without building it.
- ✓ Results are accurate in general, compared to analytical model.
- ✓ Help to find un-expected phenomenon, behavior of the system.
- ✓ Easy to perform ``What-If" analysis.

Q7 (e)

Synergy

- ✓ Synergy is the concept that the value and performance of two companies combined will be greater than the sum of the separate individual parts.
- ✓ Synergy is a term that is most commonly used in the context of mergers and acquisitions.
- ✓ Synergy, or the potential financial benefit achieved through the combining of companies, is often a driving force behind a merger.
- ✓ Shareholders will benefit if a company's post-merger share price increases due to the synergistic effect of the deal. The expected synergy achieved through the merger can be attributed to various factors, such as increased revenues, combined talent and technology, or cost reduction.

Synergy as a tool in mergers and acquisitions

Mergers and acquisitions are made with the goal of improving the company's financial performance for the shareholders.

Two businesses can merge to form one company that is capable of producing more revenue than either could have been able to independently, or to create one company that is able to eliminate or streamline redundant processes, resulting in significant cost reduction.

Because of this principle, the potential synergy is examined during the merger and acquisition process.

If two companies can merge to create greater efficiency or scale, the result is what is sometimes referred to as a synergy merge.

For example, when the Proctor & Gamble Company acquired Gillette in 2005, a P&G news release cited that "The increases to the company's growth objectives are driven by the identified synergy opportunities from the P&G/Gillette combination. The company continues to expect cost synergies of approximately \$1 to \$1.2 billion...and an increase in the annual sales run-rate of about \$750 million by 2008." In the same press release, then P&G chairman, president and chief executive A.G. Lafley stated, "...We are both industry leaders on our own, and we will be even stronger and even better together." This is the idea behind synergy - that by combining two companies the financial results are greater than what either could have achieved alone.