

CA FINAL NOV 2009 STRATEGIC FINANCIAL MANAGEMENT SOLUTIONS

Question 1 (a)

M/s ABC Ltd. is to acquire a personal computer with modem and a printer. Its price is Rs. 60,000. ABC Ltd. Can borrow Rs 60,000 from a commercial bank at 12% interest per annum to finance the purchase. The principal sum is to be repaid in 5 equal year-end installments. ABC Ltd. can also have the computer on lease for 5 years.

The firm seeks your advice to know the maximum lease rent payable at each year end. Consider the following additional information:

- (i). Interest on bank loan is payable at each year end.
- (ii). The full cost of the computer will be written off over the effective life of computer on straight line basis. This is allowed for tax purposes.
- (iii). At the end of year 5, the computer may be sold for Rs.1,500 through a second-hand dealer, who will charge 8% commission on the sale proceeds.
- (iv). The company's effective tax rate is 30%.
- (v). The cost of capital is 11%.

SSuggest the maximum annual lease rental for ABC Ltd. PV Factor at 11%

Year	1	2	3	4	5	
PVF	0.901	0.812	0.731	0.659	0.593	(12 marks)

Answer 1(a)

Evaluation of loan option:

Step 1: **Annual Cash Flows:**

Year	Principal	Interest	Tax Benefit		Net Cash Flow	PVF@11%	PV
			Interest	Depn.			
1	-12000	-7200	2160	3600	- 13440	0.901	- 13440
2	-12000	-5760	1728	3600	-12432	0.812	-10095
3	-12000	-4320	1296	3600	-11424	0.731	-8351
4	-12000	-2880	864	3600	-10416	0.659	-6864
5	-12000	-1440	432	3600	-9408	0.593	-5579
							-42998

Step 2: **Terminal Cash Flows:**

	Rs.
Sale price of computer	1,500
Commission	-120
	<u>1,380</u>
Net proceeds	1,380
Tax on Capital gain (1380 x 30%)	-414
	<u>966</u>
Net Cash flow	966
Present Value factor for 5th year	<u>× 0.593</u>
Present Value	<u>573</u>

Step 3: **Cost of loan option:** -42998 + 573 = -42425

Calculation of maximum (break even) lease rent

Break even lease rent is the rent at which present value of after tax lease rent is equal to cost of loan option. Let us assume that break even lease rent is "R". Hence present value of after tax lease rents is: $-R \times 0.7 \times 3.696 = -2.5872R$
 $-2.5872R = -42425$
 $R = 16398$

Question 1 (b)

A mutual fund made an issue of 10,00,000 units of Rs. 10 each on January 01, 2008. No entry load was charged. It made the following investment:

	Rs.
50,000 Equity shares of Rs. 100 each @ Rs. 160	80,00,000
7% Government Securities	8,00,000

9% Debentures (Unlisted)	5,00,000
10% Debentures (Listed)	5,00,000

During the year, dividends of Rs. 12,00,000 were received on equity shares. Interest on all types of debt securities was received as and when due. At the end of the year equity shares and 10% debentures are quoted at 175% and 90% respectively. Other investments are at par.

Find out the Net Asset Value (NAV) per unit given that operating expenses paid during the year amounted to Rs. 5,00,000. Also find out the NAV, if the Mutual fund had distributed a dividend of Re. 0.80 per unit during the year to the unit holders. (8 marks)

Answer 1(b)

Particulars	Rs.	Rs.
Equity Shares (50000 x 280)		1,40,00,000
7% Government Securities		8,00,000
9% Debentures (Unlisted)		5,00,000
Cash & Bank:		4,50,000
Cash not invested# (1cr. -98 Lakhs)	2,00,000	
Dividend Received	12,00,000	
Interest @7%	56,000	
Interest @9%	45,000	
Interest @10%	50,000	
Operating expenses	<u>-5,00,000</u>	
		<u>10,51,000</u>
Value of assets at the end of year		1,68,01,000
No. of Units		1000000
NAV= Assets/No. of units		16.801

It is assumed that this amount is not paid as distribution commission to the dealers.

NAV if dividend of Rs.0.80 is given = 16.801 – 0.80 = Rs.16.001 **WWW.GNTMASTERMINDS.COM**

Question 2 (a)

An investor holds two stocks A and B. An analyst prepared ex-ante probability distribution for the possible Economic scenarios and the conditional returns for two stocks and the market index as shown:

Economic Scenario	Probability	Conditional Returns %		
		A	B	Market
Growth	0.40	25	20	18
Stagnation	0.30	10	15	13
Recession	0.30	-5	-8	-3

The risk free rate during the next year is expected to be around 11%. Determine whether the Investor should liquidate his holdings in stocks A and B or on the contrary make fresh investments in them. CAPM assumptions are holding true. (10 marks)

Answer 2(a)

A	B	M	Prob.	A × P	B × P	M × P	M ² × P	Cov(M,A)	Cov(M,B)
25	20	18	0.4	10	8	7.2	129.6	42.12	30.888
10	15	13	0.3	3	4.5	3.9	50.7	-1.26	4.116
-5	-8	-3	0.3	-1.5	-2.4	-0.9	2.7	65.34	71.676
				11.5	10.1	10.2	183	106.2	106.68

Expected Return of Stock A = 11.5%

Expected Return of Stock B = 10.1%

Expected Return of Market Portfolio = 10.2%

$$\text{Variance of Market portfolio} = \sum M^2 P - (\sum MP)^2 = 183 - (10.2)^2 = 78.96$$

Beta of **A** with respect to market = $\text{Cov}(M,A) / \text{Variance of market portfolio} = 106.2 / 78.96 = 1.34$

Beta of **B** with respect to market = $\text{Cov}(M,B) / \text{Variance of market portfolio} = 106.68 / 78.96 = 1.35$

$$E(R_p) = R_f + (R_m - R_f)\beta$$

Required return (Ideal expectations) for **Stock A** = $11 + (10.2 - 11) \times 1.34 = 9.93$

Required return (Ideal expectations) for **Stock B** = $11 + (10.2 - 11) \times 1.35 = 9.92$

For both stock A & B expected return is more than the ideal expectations hence the stocks must be undervalued. Therefore investor can make fresh investments in them.

Question 2 (b)

What are the limitations of Credit Rating?

(4 marks)

Answer 2(b)

Many times Credit rating agencies suddenly change credit rating by three or more notches. The high proportion of companies whose investment grade rating was overnight changed to non-investment grade is not conducive for enhancing the faith of investors in ratings. There are several limitations of credit ratings as follows:

First, credit ratings are changed when the agencies feel that sufficient changes have occurred. The rating agencies are physically unable to constantly monitor all the firms in the market. The opinions of rating agencies may turn wrong in the context of subsequent events that may have an adverse impact on asset quality of the issuer.

Second, the use of credit ratings imposes discrete categories on default risk, while, in reality default risk is a continuous phenomenon. Moody's recognized this way back in 1982 by adding numbers to the letter system, thereby increasing its number of rating categories from 9 to 19. Nevertheless, this limitation still pertains. The letter grades assigned by rating agencies serve only as a general, somewhat coarse form of discrimination.

Third, owing to time and cost constraints, credit ratings are unable to capture all characteristics for an issuer and issue. A borrowing company can reduce the cost of borrowing, if it obtains a higher rating for its contemplated issue. The stakes and pressures, consequently, to get a good quality rating are high. If the company comes to know that its issue is going to get a low quality rating, it may approach another agency and then use the best rating among them since it is not under obligation to disclose all ratings. Investors should, therefore, not follow blindly the ratings of different agencies in regard to the safety of fixed income instruments. The investors should explore other alternative evaluation sources so that they become aware of the true risks involved.

Question 2 (c)

Following Financial data are available for PQR Ltd. for the year 2008:

	Rs. In lakh
8% Debentures	125
10% bonds (2007)	50
Equity shares (Rs. 10 each)	100
Reserve and Surplus	300
Total Assets	600
Assets Turnovers ratio	1.1
Effective interest rate	8%
Effective tax rate	40%
Operating margin	10%
Dividend payout ratio	16.67%
Current market Price of Shares	14
Required Rate of return of investors	15%

You are required to:

- Draw income statement for the year

- (ii). Calculate its sustainable growth rate
 (iii). Calculate the fair price of the company's shares using dividend discount model, and
 What is your opinion on investment in the company's share at current price? (6 marks)

Answer 2(c)

(i) Asset Turnover ratio = Turnover / Total Assets

1.1:1 = Turnover / 600

Turnover = 660

Income Statement for the year

Particulars	Rs. In Lakhs
Turnover	660
Operating Profit (10% of Sales)	66
Interest on Debentures @ 8%	-10
Interest on Bonds @ 10%	-5
Profit before tax	51
Tax @40%	-20.4
Earnings Available to equity shareholders	30.6
No. of shares	10
EPS	3.06
Pay-out ratio	1/6th
DPS	0.51

(ii) Sustainable growth rate = Return on equity x Retention Ratio

Return on equity = Earnings available to equity shareholders / Equity shareholders fund
 = 27 / (100 + 300) = 6.75%

Retention Ratio = 1 – Pay-out ratio
 = 1 – 1/6
 = 5/6

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Growth Rate = 6.75% x 5/6
 = 5.625%

(iii) Fair price of share as per dividend discount model

Fair Price = Dividend at the end of first year / (required return – growth rate)
 = (0.45 x 1.05626) / (0.15-0.5625)
 = 0.475 / 0.09375
 = Rs.5.07

(iv) Fair price of the share is Rs.5 while actual price is Rs.14. It means share is currently overvalued. Therefore one should sell the same.

Question 3 (a)

Closing values of BSE Sensex from 6th to 17th day of the month of January of the year 200X were as follows:

Days	Date	Day	Sensex
1	6	THU	14522
2	7	FRI	14925
3	8	SAT	No Trading
4	9	SUN	No Trading
5	10	MON	15222
6	11	TUE	16000
7	12	WED	16400
8	13	THU	17000
9	14	FRI	No Trading
10	15	SAT	No Trading

11	16	SUN	No Trading
12	17	MON	18000

Calculate Exponential moving Average (EMA) of Sensex during the above period. The 30 days simple moving average of Sensex can be assumed as 15,000. The Value of exponent for 30 days EMA is 0.062. Give detailed analysis on the basis of your calculations. (6 marks)

Answer 3(a)

Exponential Moving average = (Today's closing price x 0.062) + (Yesterday's Moving average × (1- .062))

For example for day 1 EMA = 14522 x 0.062 + 15000 x 0.938 = 14970

Day	Sensex	EMA
1	14,522	14,970
2	14,925	14,968
5	15,222	14,983
6	16,000	15,046
7	16,400	15,130
8	17,000	15,246
12	18,000	15,417

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