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SUGGESTED SOLUTION

CA FINAL NOV'19

SUBJECT- SFM

Test Code – FNJ 7199

BRANCH - () (Date :)

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Answer 1:

(A)

On January 28, 2017 the importer customer requested to remit SGD 25 lakhs. To consider sell rate for the bank:

US $	=	Rs.45.90
Pound 1	=	US$ 1.7850
Pound 1	=	SGD 3.1575
Therefore, SGD 1	=	$\frac{\text{Rs.45.90* 1.7850}}{SGD\ 3.1575}$
SGD 1	=	Rs.25.9482
Add: Exchange margin (0.125%)	=	Rs. 0.0324
		Rs. 25.9806

On February 4, 2017 the rates are

US $	=	Rs. 45.97
Pound 1	=	US$ 1.7775
Pound 1	=	SGD 3.1380
Therefore, SGD 1	=	$\frac{\text{Rs.45.97* 1.7775}}{SGD\ 3.1380}$
SGD 1	=	Rs. 26.0394
Add: Exchange margin (0.125%)	=	Rs. 0.0325
		Rs. 26.0719

Hence, loss to the importer

= SGD 25,00,000 (Rs. 26.0719 – Rs. 25.9806) = Rs. 2,28,250 **(6 marks)**

(B)

No. of Shares = (Rs. 1300 crores / Rs. 40) = 32.5 crores

EPS = (PAT / No. of shares)

EPS = (Rs. 290 crores / 32.5 crores) = Rs. 8.923

FCFE = Net income – [(1-b) (capex – dep) + (1-b) (ΔWC)]

FCFE = 8.923 – [(1-0.27) (47-39) + (1-0.27) (3.45)]

= 8.923 – [5.84 + 2.5185] = 0.5645

Cost of Equity = $R_f + ß\ (R_m - R_f)$

Po = [FCFE (1 + g) / (Ke - g)]

= [0.5645 (1.08) / 0.0886 – 0.08]

= (0.60966 / 0.0086)

= Rs. 70.89 **(4 marks)**

Answer 2:

(i) Value of share at present = $\frac{D_1}{K_e - g}$

$= \frac{2(1.06)}{0.08-0.06} = Rs.106$

However, if the Board implement its decision, no dividend would be payable for 3 years and the dividend for year 4 would be Rs. 2.50 and growing at 7% p.a. The price of the share, in this case, now would be:

$P_0 = \frac{2.50}{0.08\text{-}0.07} \text{ x } \frac{1}{(1+0.08)^3} = \text{Rs.}198.46$

So, the price of the share is expected to increase from Rs. 106 to Rs. 198.45 after the announcement of the project. The investor can take up this situation as follows:

Expected market price after 3 years	$= \frac{2.50}{0.08-0.07}$	Rs. 250.00
Expected market price after 2 years	$\frac{2.50}{0.08-0.07} \text{ x } \frac{1}{(1+0.08)}$	Rs.231.48
Expected market price after 1 years	$\frac{2.50}{0.08-0.07} \text{ x } \frac{1}{(1+0.08)^2}$	Rs.214.33

(4 marks)

(ii) In order to maintain his receipt at Rs. 2,000 for first 3 year, he would sell

10 shares in first year @ Rs. 214.33 for Rs. 2,143.30

9 shares in second year @ Rs. 231.48 for Rs. 2,083.32

8 shares in third year @ Rs. 250 for Rs. 2,000.00

At the end of 3rd year, he would be having 973 shares valued @ Rs. 250 each i.e. Rs. 2,43,250. On these 973 shares, his dividend income for year 4 would be @ Rs. 2.50 i.e. Rs. 2,432.50.

Thus, if the project is taken up by the company, the investor would be able to maintain his receipt of at least Rs. 2,000 for first three years and would be getting increased income thereafter. **(4 marks)**

Answer 3:

In the given case, the exchange rates are indirect. These can be converted into direct rates as follows:

Spot rate

GBP = $\frac{1}{\text{USD1.5617}}$ to $\frac{1}{\text{USD1.5673}}$

USD = GBP 0.64033 - GBP 0.63804

6 months' forward rate

GBP = $\frac{1}{\text{USD1.5455}}$ to $\frac{1}{\text{USD1.5609}}$

USD = GBP 0.64704 - GBP 0.64066 **(2 marks)**

Payoff in 3 alternatives

i. Forward Cover

Amount payable	USD 3,64,897	
Forward rate	GBP 0.64704	
Payable in	GBP GBP 2,36,103	**(1 mark)**

ii. Money market Cover

Amount payable	USD 3,64,897	
PV @ 4.5% for 6 months i.e. $\frac{1}{1.0225} = 0.9779951$		
Spot rate purchase	GBP 0.64033	
Borrow GBP 3,56,867 x 0.64033		GBP 2,28,512
Interest for 6 months @ 7 %		7,998
		-
Payable after 6 months		GBP 2,36,510
		(2 marks)

iii. Currency options

Amount payable	USD 3,64,897
Unit in Options contract	GBP 12,500
Value in USD at strike rate of 1.70 (GBP 12,500 x 1.70)	USD 21,250
Number of contracts USD 3,64,897/ USD 21,250	17.17
Exposure covered USD 21,250 x 17 USD	3,61,250
Exposure to be covered by Forward (USD 3,64,897 – USD 3,61,250) USD	3,647
Options premium 17 x GBP 12,500 x 0.096 USD	20,400
Premium in GBP (USD 20,400 x 0.64033)	GBP 13,063
Total payment in currency option	
Payment under option (17 x 12,500)	GBP 2,12,500
Premium payable	GBP 13,063
Payment for forward cover (USD 3,647 x 0.64704)	GBP 2,360
	GBP 2,27,923
	(3 marks)

Thus total payment in:

(i)	Forward Cover	2,36,103 GBP
(ii)	Money Market	2,36,510 GBP

(iii) Currency Option 2,27,923 GBP

The company should take currency option for hedging the risk.

Note: Even interest on Option Premium can also be considered in the above solution.

Answer 4:
(A)

(1) Cost of Capital

Retained earnings (45%)	Rs. 5 per share
Dividend (55%)	Rs. 6.11 per share
EPS (100%)	Rs. 11.11 per share
P/E Ratio	8 times
Market price	Rs. 11.11 x 8 = Rs. 88.88

(2 marks)

Cost of equity capital

$$= \left(\frac{\text{Div}}{\text{Price}} \text{ x } 100\right) + \text{Growth \%} = \frac{\text{Rs.6.11}}{\text{Rs.88.88}} \text{ x } 100 + 15\% = 21.87\%$$

(1 mark)

(2) Market Price = $\left(\frac{\text{Dividend}}{\text{Cost of Capital (\%) - Growth Rate (\%)}}\right)$

(1 mark)

$$= \frac{\text{Rs.6.11}}{(21.87 - 16)\%} = \text{Rs.104.08 per share}$$

(1 mark)

(3) Market Price = $\frac{\text{Rs.6.11}}{(20 - 19)\%} = \text{Rs.611.00 per share}$

(1 mark)

Alternative Solution **(6 marks)**

As in the question the sentence "The company retains 45% of its earnings which are Rs. 5 per share" amenable to two interpretations i.e. one is Rs. 5 as retained earnings (45%) and another is Rs.

5 is EPS (100%). Alternative solution is as follows:

(1) Cost of capital

EPS (100%)	Rs. 5 per share
Retained earnings (45%)	Rs. 2.25 per share
Dividend (55%)	Rs. 2.75 per share
P/E Ratio	8 times
Market Price	Rs. 5 x 8 = Rs. 40

Cost of equity capital

$$= \left(\frac{\text{Div}}{\text{Price}} \text{ x } 100\right) + \text{Growth \%} = \frac{\text{Rs.2.75}}{\text{Rs.40.00}} \text{ x } 100 + 15\% = 21.87\%$$

(2) **Market Price** $= \left(\frac{\text{Dividend}}{\text{Cost of Capital (\%) - Growth Rate (\%)}}\right) = \frac{\text{Rs.2.75}}{(21.87 - 16)\%}$

= Rs. 46.85 per share

(3) **Market Price** $= \frac{\text{Rs.2.75}}{(20-19)\%} = \text{Rs.275.00 per share}$ **.**

(B)

Strategy 1: This strategy is covered by High Risk: Low Reward category and worst as it leaves all exposures unhedged. Although this strategy does not involve any time and effort, it carries high risk.

Strategy 2: This strategy covers Low Risk: Reasonable reward category as the exposure is covered wherever there is anticipated profit otherwise it is left.

Strategy 3: This strategy is covered by High Risk: High Reward category as to earn profit, cancellations and extensions are carried out. Although this strategy leads to high gains but it is also accompanied by high risk.

Strategy 4: This strategy is covered by Low Risk : Low Reward category as company plays a very safe game.

Diagrammatically all these strategies can be depicted as follows:

High Risk

Low	Strategy 1	Strategy 3	High
Reward	Strategy 4	Strategy 2	Reward

Low Risk

(1 mark x 4 = 4 marks)

Answer 5:

(i) Calculation of Profit after tax (PAT)

		Rs.
Profit before interest and tax (PBIT)		32,00,000
Less: Debenture interest (Rs. 64,00,000 × 12/100)		7,68,000
Profit before tax (PBT)		24,32,000
Less: Tax @ 35%		8,51,200
Profit after tax (PAT)		15,80,800
Less: Preference Dividend		
(Rs. 40,00,000 × 8/100)	3,20,000	
Equity Dividend (Rs. 80,00,000 × 8/100)	6,40,000	9,60,000

Retained earnings (Undistributed profit)	6,20,800

(1 mark)

Calculation of Interest and Fixed Dividend Coverage

= [(PAT + Debenture Interest) / (Debenture interest + Prefernce Dividend)] **(1 mark)**

= [(1580800 + 768000) / (768000 + 320000)]

= [2348800 / 1088000]

= 2.16 times **(1 mark)**

(ii) **Calculation of Capital Gearing Ratio**

Capital Gearing Ratio = [Fixed interest bearing funds / Equity Shareholder's funds] = [(preference share capital + Debentures) / Equity Share Capital + Reserves] **(1 mark)**

= [4000000 + 6400000] / [8000000 + 3200000]

= [10400000 / 11200000]

= 0.93 **(1 mark)**

(iii) Calculation of Yield on Equity Shares:

Yield on equity shares is calculated at 50% of profits distributed and 5% on undistributed profits:

	(Rs.)
50% on distributed profits (Rs. 6,40,000 × 50/100)	3,20,000
5% on undistributed profits (Rs. 6,20,800 × 5/100)	31,040
Yield on equity shares	3,51,040

(2 marks)

Yield on equity shares % = (Yield on shares / Equity Share Capital) x 100

= (351040 / 8000000) x 100

= 4.39% or 4.388% **(1 mark)**

Calculation of Expected Yield on Equity shares

(A) Interest and fixed dividend coverage of Sun Ltd. is 2.16 times, but the industry average is 3 times. Therefore, risk premium is added to Sun Ltd. Shares @ 1% for every 1 time of difference. Hence,

Risk Premium = 3.00 – 2.16 (1%) = 0.84 (1%) = 0.84%

(B) Capital Gearing ratio of Sun Ltd. is 0.93 but the industry average is 0.75 times. Therefore, risk premium is added to Sun Ltd. shares @ 2% for every 1 time of difference. Hence,

Risk Premium = (0.75 – 0.93) (2%) = 0.18 (2%) = 0.36%

(%)

Normal return expected	9.60
Add: Risk premium for low interest and fixed dividend coverage	0.84
Add: Risk premium for high interest gearing ratio	0.36
	10.80

Value of Equity Share

= (Actual yield / Expected Yield) x Paid up value of share

= (4.39 / 10.80) x 100

= Rs. 40.65 **(2 marks)**

Answer 6:

Forward Rate = $\frac{2.50(1+0.075)}{(1+0.060)}$ = Can$ 2.535/£ **(1 mark)**

(i) If spot rate decline by 2%

Spot Rate = Can$ 2.50 x 1.02 = Can$ 2.55/£

	£
£ receipt as per Forward Rate (Can $ 5,00,000/ Can$ 2.535)	1,97,239
£ receipt as per Spot Rate (Can $ 5,00,000/ Can$ 2.55)	1,96,078
Gain due to forward contract	1,161

(1 mark)

(ii) If spot rate gains by 4%

Spot Rate = Can$ 2.50 x 0.96 = Can$ 2.40/£

	£
£ receipt as per Forward Rate (Can $ 5,00,000/ Can$ 2.535)	1,97,239
£ receipt as per Spot Rate (Can $ 5,00,000/ Can$ 2.40)	2,08,333
Loss due to forward contract	11,094

(1 mark)

(iii) If spot rate remains unchanged

	£
£ receipt as per Forward Rate (Can $ 5,00,000/ Can$ 2.535)	1,97,239
£ receipt as per Spot Rate (Can $ 5,00,000/ Can$ 2.50)	2,00,000
Loss due to forward contract	2,761

(1 mark)