

MOCK TEST PAPER 1

FINAL COURSE: GROUP – I

PAPER – 2: STRATEGIC FINANCIAL MANAGEMENT

SUGGESTED ANSWERS/HINTS

1. (a) Bank will buy from customer at the agreed rate of ₹ 83.10. In addition to the same if bank will charge/ pay swap difference and interest on outlay funds.
- (a) Swap Difference
- | | |
|--|----------------|
| Bank Sells at Spot Rate on 28 th November 2021 | ₹ 75.22 |
| Bank Buys at Forward Rate of 31 st December 2021 (75.27 + 0.15) | <u>₹ 75.42</u> |
| Swap Loss per US\$ | <u>₹ 00.20</u> |
| Swap loss for US\$ 5,00,000 | ₹ 1,00,000 |
- (b) Interest on Outlay Funds
- | | |
|--|----------------|
| On 28 th November Bank sells at | ₹ 75.22 |
| It buys from customer at | <u>₹ 75.40</u> |
| Outlay of Funds per US\$ | <u>₹ 00.18</u> |
| Interest on Outlay fund for US\$ 5,00,000 for 31 days
(US\$500000 x 00.18 x 31/365 x 18%) | ₹ 1,376 |
- (c) Charges for early delivery
- | | |
|---|-------------------|
| Swap loss | ₹ 1,00,000 |
| Interest on Outlay fund for US\$ 5,00,000 for 31 days | <u>₹ 1,376</u> |
| | <u>₹ 1,01,376</u> |
- (d) Net Inflow to Mr. P
- | | |
|--|----------------------|
| Amount received on sale (₹ 75.40 x 5,00,000) | ₹ 3,77,00,000 |
| Less: Charges for early delivery payable to bank | <u>(₹ 1,01,376)</u> |
| | <u>₹ 3,75,98,624</u> |
- Total Marks = 10**
- (b) (i) Equilibrium price of Equity using CAPM
- $$= 8\% + 1.5(12\% - 8\%)$$
- $$= 8\% + 6\% = 14\%$$
- $$P = \frac{D_1}{k_e - g} = \frac{5(1.06)}{0.14 - 0.06} = ₹ 66.25$$
- (ii) New Equilibrium price of Equity using CAPM
- $$= 8.16\% + 1.8(12\% - 8.16\%)$$
- $$= 8.16\% + 6.91\% = 15.07\%$$
- $$P = \frac{D_1}{k_e - g} = \frac{5(1.08)}{0.1507 - 0.08} = ₹ 76.38$$

Thus, the equilibrium price is increased by ₹ 10.13 per share. **Total Marks = 6**

(c) The financial risk can be evaluated from different point of views as follows:

- (a) From stakeholder's point of view: Major stakeholders of a business are equity shareholders and they view financial gearing i.e. ratio of debt in capital structure of company as risk since in event of winding up of a company they will be least prioritized. Even for a lender, existing gearing is also a risk since company having high gearing faces more risk in default of payment of interest and principal repayment.
- (b) From Company's point of view: From company's point of view if a company borrows excessively or lend to someone who defaults, then it can be forced to go into liquidation.
- (c) From Government's point of view: From Government's point of view, the financial risk can be viewed as failure of any bank or (like Lehman Brothers) down grading of any financial institution leading to spread of distrust among society at large. Even this risk also includes willful defaulters. This can also be extended to sovereign debt crisis.

Total Marks = 4

2. (a) Working Notes:

(1) Computation of NOPAT

EBIT	615.00
Less: Taxes	-184.50
Add: Non-Cash Expenses	30.00
NOPAT	460.50

(2) Computation of Invested Capital:

Total Assets	1950
Less: Non Interest bearing liabilities	-600
	1350
Add: Non Cash adjustment	30
Invested Capital	1380

Note: It is assumed that the current liabilities also include the 180 of tax liability.

(3) Computation the WACC

$$\begin{aligned}
 \text{WACC} &= \text{Cost of equity} + \text{Cost of debt} \\
 &= (1200/1350 \times 10\%) + [150/1350 \times 12\% (1 - 0.30)] \\
 &= 8.89\% + 0.933\% = 9.82\%
 \end{aligned}$$

(4) Capital Charge = Invested Capital * WACC = ₹ 1380 lac * 9.82% = ₹ 135.516 lac

The formula for computing Economic Value Added:

$$\text{EVA} = \text{Adjusted NOPAT} - \text{Capital Charge}.$$

Accordingly, EVA of X Ltd. is

$$= ₹ 460.50 \text{ lac} - ₹ 135.52 \text{ lac} = ₹ 324.98 \text{ lac}$$

Total Marks = 8

- (b) (i) Future Price = Spot + cost of carry – Dividend

$$F = 450 + 450 \times (0.12 \times 0.25)^{\dagger} - 0.20^{**} \times 10 = 461.50$$

** Entire 20% dividend is payable before expiry, which is ₹ 2.

† Alternatively monthly compounding can also be used.

Thus, we can see that justified futures price is ₹ 461.50 which is quoted at ₹ 470 in the exchange.

(ii) **Analysis of Arbitrage Opportunities:**

Since, Fair value of Futures is less than Actual Futures Price it is advised to sell it and buying stock in the cash market.

Step I

Arbitrageur will buy ABC Stock at ₹ 450 by borrowing at 12% for 3 months. Therefore, his outflows will be:

Cost of Stock	450.00
Add: Interest @ 12 % for 3 months i.e. 0.25 years ($450 \times 0.12 \times 0.25$)	<u>13.50</u>
Total Outflows (A)	<u>463.50</u>

Step II

Arbitrageur will settle futures at ₹ 470. Meanwhile he would receive dividend for his stock.

Hence his inflows are

Sale proceeds of futures	470.00
Dividend	<u>2.00</u>
Total inflows (B)	<u>472.00</u>

Inflow – Outflow = Profit earned by Arbitrageur

$$= ₹ 472.00 - ₹ 463.50 = ₹ 8.50$$

Total Marks = 8

- (c) The securitization has the following features other than Bundling and Unbundling:

- (i) Creation of Financial Instruments – The process of securities can be viewed as process of creation of additional financial product of securities in market backed by collaterals.
- (ii) Tool of Risk Management – In case assets are securitized on non-recourse basis, then securitization process acts as a risk management tool as the risk of default is shifted from originator (of securities) to investor (in securities).
- (iii) Structured Finance – In the process of securitization, financial instruments are tailor structured to meet the risk return trade off profile of the investor, and hence, these securitized instruments are considered as best examples of structured finance.
- (iv) Trenching – Portfolio of different receivable or loan or asset are split into several parts based on risk and return they carry called 'Tranche'. Each Trench carries a different level of risk and return.
- (v) Homogeneity – Under each tranche the securities issued are of homogenous nature and even meant for small investors who can afford to invest in small amounts.

Total Marks = 4

Or

Though there may be many features of Alternative Investment but following are some common features:

- (i) High Fees – Being a specific nature product the transaction fees are quite on higher side.
- (ii) Limited Historical Rate – The data for historic return and risk is very limited where data for equity market for more than 100 years is available.
- (iii) Illiquidity – The liquidity of Alternative Investment is not good as next buyer may not be easily available due to limited market.
- (iv) Less Transparency – The level of transparency is not adequate due to limited public information available.
- (v) Extensive Research Required – Due to limited availability of market information extensive analysis is required by the Portfolio Managers.
- (vi) Leveraged Buying – Generally investment in alternative investments is highly leveraged

Total Marks = 4

3. (a) (i) Stock value or conversion value of bond

$$₹ 12 \times 20 = ₹ 240$$

(ii) Percentage of the downside risk

$$\frac{₹ 265 - ₹ 235}{₹ 235} = 0.1277 \text{ or } 12.77\% \quad \text{or} \quad \frac{₹ 265 - ₹ 235}{₹ 265} = 0.1132 \text{ or } 11.32\%$$

(iii) Conversion Premium

$$\frac{\text{Market Price} - \text{Conversion Value}}{\text{Conversion Value}} \times 100$$

$$\frac{₹ 265 - ₹ 240}{₹ 240} \times 100 = 10.42\%$$

(iv) Conversion Parity Price

$$\frac{\text{Bond Price}}{\text{No. of Shares on Conversion}}$$

$$\frac{₹ 265}{20} = ₹ 13.25$$

Total Marks = 8

(b) (i) Returns for the year

(All changes on a Per -Unit Basis)

Change in Price: (₹ 12.35 – ₹ 9.75) ₹ 2.60

Dividends received: ₹ 1.25

Capital gains distribution ₹ 0.80

Total reward ₹ 4.65

$$\text{Holding period reward: } \frac{4.65}{9.75} \times 100 = 47.69\%$$

(ii) When all dividends and capital gains distributions are re-invested into additional units of the fund @ (₹ 11.05/unit)

Dividend + Capital Gains per unit

$$= ₹ 1.25 + ₹ 0.80 = ₹ 2.05$$

Total received from 500 units = ₹ 2.05 x 500 = ₹ 1,025/-
 Additional Units Acquired (₹ 1,025/₹ 11.05) = 92.76 Units.
 Total No. of Units = 500 units + 92.76 units = 592.76 units.
 Value of 592.76 units held at the end of the year
 = 592.76 units x ₹ 12.35 = ₹ 7,320.59
 Price Paid for 500 Units at the beginning of the year
 = 500 units x ₹ 9.75 = ₹ 4,875.00

Holding Period Reward

₹ (7320.59 – 4875.00) = ₹ 2445.59
 Holding Period Reward = $\frac{2445.59}{4875.00} \times 100 = 50.17\%$

Conclusion: Since the holding period reward is more in terms of percentage in option-two i.e., reinvestment of distributions at an average NAV of ₹11.05 per unit, Mr. A should opt for reinvestment option.

Total Marks = 8

- (c) Corporate level strategy fundamentally is concerned with selection of businesses in which a company should compete and with the development and coordination of that portfolio of businesses. Corporate level strategy should be able to answer three basic questions:

- (1) Suitability: Whether the strategy would work for the accomplishment of common objective of the company.
- (2) Feasibility: Determines the kind and number of resources required to formulate and implement the strategy.
- (3) Acceptability: It is concerned with the stakeholders' satisfaction and can be financial and non-financial.

Total Marks = 4

4. (a) Calculation of NPV

Year	0	1	2	3
Inflation factor in India	1.00	1.10	1.21	1.331
Inflation factor in Africa	1.00	1.30	1.69	2.197
Exchange Rate (as per IRP)	6.00	7.09	8.38	9.90
Cash Flows in ₹ '000				
Real	-100000	-3000	-4000	-5000
Nominal (1)	-100000	-3300	-4840	-6655
Cash Flows in African Rand '000				
Real	-400000	100000	140000	180000
Nominal	-400000	130000	236600	395460
In Indian ₹ '000 (2)	-66667	18336	28234	39945
Net Cash Flow in ₹ '000 (1)+(2)	-166667	15036	23394	33290
PVF@20%	1	0.833	0.694	0.579
PV	-166667	12525	16235	19275

NPV of 3 years = -118632 (₹ '000)

$$\text{NPV of Terminal Value} = \frac{33290}{0.20} \times 0.579 = 96375 \text{ (₹ '000)}$$

$$\text{Total NPV of the Project} = -118632 \text{ (₹ '000)} + 96375 \text{ (₹ '000)} = -22257 \text{ (₹ '000)}$$

Total Marks = 8

- (b) In order to find out the NAV, the cash balance at the end of the year is calculated as follows-

Particulars	₹
Cash balance in the beginning (₹ 50 lakhs – ₹ 49 lakhs)	1,00,000
Dividend Received	6,00,000
Interest on 7% Govt. Securities	28,000
Interest on 9% Debentures	22,500
Interest on 10% Debentures	<u>25,000</u>
	7,75,500
(-) Operating expenses	<u>2,50,000</u>
Net cash balance at the end	<u>5,25,500</u>
Calculation of NAV	₹
Cash Balance	5,25,500
7% Govt. Securities (at par)	4,00,000
25,000 equity shares @ ₹ 175 each	43,75,000
9% Debentures (Unlisted) at cost	2,50,000
10% Debentures @90%	<u>2,25,000</u>
Total Assets	<u>57,75,500</u>
No. of Units	5,00,000
NAV per Unit	₹ 11.55

Calculation of NAV, if dividend of ₹ 0.80 is paid –

Net Assets (₹ 57,75,500 – ₹ 4,00,000)	₹ 53,75,500
No. of Units	5,00,000
NAV per unit	₹ 10.75

Total Marks = 8

- (c) Following are main problems faced in growth of Securitization of instruments especially in Indian context:

- (1) Stamp Duty:** Stamp Duty is one of the obstacles in India. Under Transfer of Property Act, 1882, a mortgage debt stamp duty which even goes upto 12% in some states of India and hence impedes the growth of securitization in India. It should be noted that since pass through certificate does not evidence any debt only able to receivable, they are exempted from stamp duty. Moreover, in India, recognizing the special nature of securitized instruments in some states has reduced the stamp duty on them.
- (2) Taxation:** Taxation is another area of concern in India. In the absence of any specific provision relating to securitized instruments in Income Tax Act, experts' opinion differs a lot. Some are of the opinion that SPV as a trustee is liable to be taxed in a representative capacity whereas others are of view that instead of SPV, investors will be taxed on their

share of income. Clarity is also required on the issues of capital gain implications on passing payments to the investors.

- (3) **Accounting:** Accounting and reporting of securitized assets in the books of originator is another area of concern. Although securitization is slated to be an off-balance sheet instrument but in true sense the receivables are removed from originator's balance sheet. Problem arises especially when assets are transferred without recourse.
- (4) **Lack of Standardization:** Every originator follows his own format for documentation and administration and hence lack of standardization is another obstacle in the growth of securitization.
- (5) **Inadequate Debt Market:** Lack of existence of a well-developed debt market in India is another obstacle that hinders the growth of secondary market of securitized or asset backed securities.
- (6) **Ineffective Foreclosure Laws:** For many years efforts are on for effective foreclosure but still foreclosure laws are not supportive to lending institutions and this makes securitized instruments especially mortgaged backed securities less attractive as lenders face difficulty in transfer of property in event of default by the borrower

Total Marks = 4

5. (a) (1) The Betas of two stocks:

$$\text{Aggressive stock} \quad - \quad (60\% - 6\%)/(37.50\% - 10.50\%) = 2$$

$$\text{Defensive stock} \quad - \quad (27\% - 13.50\%)/(37.50\% - 10.50\%) = 0.50$$

Alternatively, it can also be solved by using the Characteristic Line Relationship as follows:

$$R_s = \alpha + \beta R_m$$

Where,

α = Alpha

β = Beta

R_m = Market Return

For Aggressive Stock

$$6\% = \alpha + \beta(10.50\%)$$

$$60\% = \alpha + \beta(37.50\%)$$

$$54\% = \beta(27\%)$$

$$\beta = 2$$

For Defensive Stock

$$13.50\% = \alpha + \beta(10.50\%)$$

$$27\% = \alpha + \beta(37.50\%)$$

$$13.50\% = \beta(27\%)$$

$$\beta = 0.50$$

- (2) Expected returns of the two stocks:-

$$\text{Aggressive stock} \quad - \quad 0.5 \times 6\% + 0.5 \times 60\% = 33\%$$

$$\text{Defensive stock} \quad - \quad 0.5 \times 13.50\% + 0.5 \times 27\% = 20.25\%$$

- (3) Expected return of market portfolio = $0.5 \times 10.50\% + 0.5 \times 37.50\% = 24\%$

$$\therefore \text{Market risk premium} = 24\% - 11.25\% = 12.75\%$$

∴ SML is, required return = 11.25% + βi 12.75%

(4) $R_s = \alpha + \beta R_m$

For Aggressive Stock

$33\% = \alpha_A + 2(24\%)$

$\alpha_A = -15\%$

For Defensive Stock

$20.25\% = \alpha_D + 0.50(24\%)$

$\alpha_D = 8.25\%$

Total Marks = 8

- (b) (i) As borrower does not want to pay more than 8.5% p.a., on this loan where the rate of interest is likely to rise beyond this, hence, he is *advised* to hedge the risk by entering into an agreement to buy interest rate caps with the following parameters:

- Notional Principal: ₹ 40,00,000/-
- Strike rate: 8.5% p.a.
- Reference rate: The rate of interest applicable to this loan.
- Calculation and settlement date: 31st March every year.
- Duration of the caps: Till 31st March 2016.
- Premium for caps: Negotiable between both the parties.

To purchase the caps this borrower is required to pay the premium upfront at the time of buying caps. The payment of such premium will entitle him with right to receive the compensation from the seller of the caps as soon as the rate of interest on this loan rises above 8.5%. The compensation will be at the rate of the difference between the rate of none of the cases the cost of this loan will rise above 8.5% calculated on ₹ 40,00,000/-. This implies that in none of the cases the cost of this loan will rise above 8.5%. This hedging benefit is received at the respective interest due dates at the cost of premium.

- (ii) To evaluate the position of the borrower on respective dates we shall compute the interest cost as follows:

Dates	Interest Rate (a)	Exercise of Option	Compensation (b)	Net Cost (a) – (b)
31 st March, 2013	10.20%	Yes	10.20% - 8.50% = 1.70%	8.50%
31 st March, 2014	11.50%	Yes	11.50% - 8.50% = 3.00%	8.50%
31 st March, 2015	9.25%	Yes	9.25% - 8.50% = 0.75%	8.50%
31 st March, 2016	8.25%	No	Nil	8.25%

Thus, from above it can be evaluated that the by paying an upfront premium of ₹ 40,000 each year the borrower can ensure that its interest rate cost does not exceed 8.50% p.a.

Total Marks = 8

- (c) (i) **Problem:** The promoter should be able to explain the problem the startup is going to solve and solutions emerging from it. It is important to convince the investors that the newly introduced product or service will solve the problem.
- (ii) **Solution:** It is very important to describe in the pitch presentation as to how the company is planning to solve the problem.

(iii) **Marketing/Sales:** This is a very important part where investors will be deeply interested. The market size of the product must be communicated to the investors. This can include profiles of target customers, but one should be prepared to answer questions about how the promoter is planning to attract the customers. If a business is already selling goods, the promoter can also brief the investors about the growth and forecast future revenue.

(iv) **Business Model:** The term business model is a wide term denoting core aspects of a business including purpose, business process, target customers, offerings, strategies, infrastructure, organizational structures, sourcing, trading practices, and operational processes and policies including culture.

Total Marks = 4

6. (a) (i) **Swap ratio based on current market prices:**

EPS before acquisition:

M Ltd.: ₹ 4,000 lakhs / 400 lakhs: ₹ 10

R Ltd.: ₹ 8,000 lakhs / 2,000 lakhs: ₹ 4

Market price before acquisition:

M Ltd.: ₹ 10 × 5 ₹ 50

R Ltd.: ₹ 4 × 2.5 ₹ 10

Swap ratio: 10/50 or 1/5 i.e. 0.20

(ii) **EPS after acquisition:**

$$\frac{₹(4,000 + 8,000) \text{ Lakhs}}{(400 + 400) \text{ Lakhs}} = ₹ 15$$

(iii) **Market Price after acquisition:**

EPS after acquisition: ₹ 15

P/E ratio after acquisition (5 × 0.9) 4.50

Market price of share (₹ 15 × 4.50) ₹ 67.50

(iv) **Market value of the merged Co.:**

₹ 67.50 × 800 lakhs shares ₹ 540 Crores

or ₹ 54,000 Lakhs

(v) **Gain/loss per share:**

	₹ Crore	
	M Ltd.	R Ltd.
Total value before Acquisition	200.00	200.00
Value after acquisition	<u>270.00</u>	<u>270.00</u>
Gain (Total)	<u>70.00</u>	<u>70.00</u>
No. of shares (pre-merger) (lakhs)	400	2,000
Gain per share (₹)	17.50	3.50

Total Marks = 8

(b) (i) If investment is made at London

Convert US\$ 10,00,000 at Spot Rate (10,00,000/1.5390)	= £ 6,49,773
Add: £ Interest for 3 months on £ 6,49,773 @ 5%	= £ <u>8,122</u>
	= £ 6,57,895
Less: Amount Invested	\$10,00,000
Interest accrued thereon	\$ <u>10,000</u>
	= <u>\$10,10,000</u>

Equivalent amount of £ required to pay the

Above sum (\$10,10,000/1.5430*) = £ 6,54,569

Arbitrage Profit = £ 3,326

(ii) If investment is made at New York

Gain \$ 10,00,000 (8% - 4%) x 3/12 = \$ 10,000

Equivalent amount in £ 3 months (\$ 10,000/ 1.5475) £ 6,462

(iii) If investment is made at Frankfurt

Convert US\$ 10,00,000 at Spot Rate (Cross Rate) 1.8260/1.5390= € 1.1865

Euro equivalent US\$ 10,00,000 = € 11,86,500

Add: Interest for 3 months @ 3% = € 8,899

= € 11,95,399

3 month Forward Rate of selling € (1/1.8150) = £ 0.5510

Sell € in Forward Market € 11,95,399 x £ 0.5510 = £ 6,58,665

Less: Amount invested and interest thereon = £ 6,54,569

Arbitrage Profit = £ 4,096

Since, out of the three options maximum profit is in case investment is made in Frankfurt. Hence, it should be opted.

* Due to conservative outlook.

Total Marks = 8

(c) Investors can use stock index futures to perform myriad tasks. Some common uses are:

- (1) Investors commonly use stock index futures to change the weightings or risk exposures of their investment portfolios.
- (2) Stock index futures also allow investors to separate market timing from market selection decisions.
- (3) Investors can also make money from stock index futures through index arbitrage, also referred to as program trading as it is carried out through use of computers.
- (4) Investors often use stock index futures to hedge the value of their portfolios. Provide hedging or insurance protection for a stock portfolio in a falling market. To implement a hedge, the instruments in the cash and futures markets should have similar price movements. Also, the amount of money invested in the cash and futures markets should be the same.
- (5) Stock index futures add flexibility to his or her portfolio as a hedging and trading instrument.

- (6) Create the possibility of speculative gains using leverage. Because a relatively small amount of margin money controls a large amount of capital represented in a stock index contract, a small change in the index level might produce a profitable return on one's investment if he or she is right about the market's direction.
- (7) Maintain one's stock portfolio during stock market corrections. One may not need "insurance" for all the time, but there are certain times when one would like less exposure to stocks. Yet, one doesn't want to sell off part of a stock portfolio that has taken him or her a long time to put together and looks like a sound, long-term investment program.
- (8) One of the major advantages of futures markets, in general, is that one can sell contracts as readily as he or she can buy them and the amount of margin required is the same. Mutual funds do not specialize in bear market approaches by short selling stocks but, and also it is not possible for individuals to short sell stocks in a falling market to make money.

Total Marks = 4