

MOCK TEST PAPER – 1
FINAL COURSE: GROUP – I
PAPER – 2: STRATEGIC FINANCIAL MANAGEMENT
SUGGESTED ANSWERS/HINTS

1. (a) Number of index future to be sold by the Fund Manager is:

$$\frac{1.1 \times 90,00,00,000}{4,300 \times 50} = 4,605$$

Justification of the answer:

Loss in the value of the portfolio if the index falls by 10% is ₹ $\frac{11}{100} \times 90 \text{ Crore} =$
₹ 9.90 Crore.

Gain by short covering of index future is: $\frac{0.1 \times 4,300 \times 50 \times 4,605}{1,00,00,000} = 9.90 \text{ Crore}$

This justifies the answer cash is not part of the portfolio.

- (b) (i) Under the given circumstances, the USD is expected to quote at a premium in India as the interest rate is higher in India.
(ii) Calculation of the forward rate:

$$\frac{1 + R_h}{1 + R_f} = \frac{F_1}{E_0}$$

Where: R_h is home currency interest rate, R_f is foreign currency interest rate, F_1 is end of the period forward rate, and E_0 is the spot rate.

$$\text{Therefore } \frac{1 + (0.08/2)}{1 + (0.02/2)} = \frac{F_1}{45.50}$$

$$\frac{1 + 0.04}{1 + 0.01} = \frac{F_1}{45.50}$$

$$\text{or } \frac{(1.04)}{1.01} \times 45.50 = F_1$$

$$\text{or } \frac{47.32}{1.01} = F_1$$

$$\text{or } F_1 = 46.85$$

(iii) Rate of premium:

$$\frac{46.85 - 45.50}{45.50} \times \frac{12}{6} \times 100 = 5.93\%$$

(c) VALUATION BASED ON MARKET PRICE

Market Price per share ₹ 400

Thus value of total business is (₹ 400 x 1.5 Cr.) ₹ 600 Cr.

VALUATION BASED ON DISCOUNTED CASH FLOW

Present Value of cash flows

(₹ 250 cr x 0.893) + (₹ 300 cr. X 0.797) + (₹ 400 cr. X 0.712) = ₹ 747.15 Cr.

Value of per share (₹ 747.15 Cr. / 1.5 Cr) ₹ 498.10 per share

RANGE OF VALUATION

	Per Share ₹	Total ₹ Cr.
Minimum	400.00	600.00
Maximum	498.10	747.15

(d) (i) Current yield = (Coupon Interest / Market Price) X 100

$$(10/110) \times 100 = 9.09\%$$

If current yield go up by 1% i.e. 10.09 the market price would be

$$10.09 = 10 / \text{Market Price} \times 100$$

$$\text{Market Price} = ₹ 99.11$$

(ii) Market Price of Bond = P.V. of Interest + P.V. of Principal

$$= ₹ 1,394 + ₹ 8,885 = ₹ 10,279$$

2 (a) Working Notes:

(a) Depreciation: ₹ 22,00,000 – 10,00,000/3 = ₹ 4,00,000 p.a.

(b) Effective rate of interest after tax shield: $.16 \times (1 - .50) = .08$ or 8%.

(c) Operating and training costs are common in both alternatives hence not considered while calculating NPV of cash flows.

Calculation of NPV

1. Alternative I: Purchase of Computer

Particulars	Year 1	Year 2	Year 3
	₹	₹	₹
Instalment Payment			
Principal	5,00,000	8,50,000	8,50,000
Interest	<u>3,52,000</u>	<u>2,72,000</u>	<u>1,36,000</u>
Total (A)	<u>8,52,000</u>	<u>11,22,000</u>	<u>9,86,000</u>
Tax shield @ 50%;			
Interest payment	1,76,000	1,36,000	68,000
Depreciation	<u>2,00,000</u>	<u>2,00,000</u>	<u>2,00,000</u>
Total (B)	<u>3,76,000</u>	<u>3,36,000</u>	<u>2,68,000</u>
Net Cash outflows (A – B)	4,76,000	7,86,000	7,18,000
PV factor at 8%	0.926	0.857	0.794
PV of Cash outflows	<u>4,40,776</u>	<u>6,73,602</u>	<u>5,70,092</u>
Total PV of Cash outflows:			16,84,470
Less: PV of salvage value (₹ 10 lakhs × 0.794)			<u>7,94,000</u>
Net PV of cash outflows			<u>8,90,470</u>

2. Alternative II: Lease of the Computer

Particulars	Year 1	Year 2	Year 3
	₹	₹	₹
Lease rent	5,00,000	5,00,000	5,00,000
10% of gross revenue	2,25,000	2,50,000	2,75,000
Lump sum payment	—	—	<u>6,00,000</u>
Total Payment	7,25,000	7,50,000	13,75,000
Less: Tax shield @ 50%	<u>3,62,500</u>	<u>3,75,000</u>	<u>6,87,500</u>
Net Cash outflows	<u>3,62,500</u>	<u>3,75,000</u>	<u>6,87,500</u>
PV of Cash outflows @ 8%	<u>3,35,675</u>	<u>3,21,375</u>	<u>5,45,875</u>
Total PV of cash outflows			12,02,925

Recommendation: Since the Present Value (PV) of net cash outflow of Alternative I is lower, the company should purchase the computer.

- (b) (i) Security A has a return of 8% for a risk of 4, whereas B and F have a higher risk for the same return. Hence, among them A dominates.

For the same degree of risk 4, security D has only a return of 4%. Hence, D is also dominated by A.

Securities C and E remain in reckoning as they have a higher return though with higher degree of risk.

Hence, the ones to be selected are A, C & E.

(ii) The average values for A and C for a proportion of 3 : 1 will be :

$$\text{Risk} = \frac{(3 \times 4) + (1 \times 12)}{4} = 6\%$$

$$\text{Return} = \frac{(3 \times 8) + (1 \times 12)}{4} = 9\%$$

Therefore:	75% A	E
	25% C	—
Risk	6	5
Return	9%	9%

For the same 9% return the risk is lower in E. Hence, E will be preferable.

3. (a) £ Exposure

Since Columbus has a £ receipt (£138,000) and payment of (£480,000) maturing at the same time i.e. 3 months, it can match them against each other leaving a net liability of £342,000 to be hedged.

(i) Forward market hedge

Buy 3 months' forward contract accordingly, amount payable after 3 months will be

$$£342,000 / 0.9520 = \text{US\$}359,244$$

(ii) Money market hedge

To pay £ after 3 months' Columbus shall require to borrow in US\$ and translate to £ and then deposit in £.

For payment of £342,000 in 3 months (@2.5% interest) amount required to be deposited now

$$(£342,000 \div 1.025) = £333,658$$

$$\text{With spot rate of 0.9830 the US\$ loan needed will be} = \text{US\$}339,429.$$

$$\text{Loan repayable after 3 months (@3.25% interest) will be} = \text{US\$}350,460.$$

In this case the money market hedge is a cheaper option.

€ Receipt

Amount to be hedged = €590,000

Now we Convert exchange rates to home currency

€ / US\$

Spot 0.5285 – 0.5294

4 months forward 0.5118 – 0.5126

(i) Forward market hedge

Sell 4 months' forward contract accordingly, amount receivable after 4 months will be = US\$1,150,995 (€590,000 / 0.5126)

(ii) Money market hedge

For money market hedge Columbus shall borrow in € and then translate to US\$ and deposit in US\$

For receipt of €590,000 in 4 months (@5.33% interest) amount required to be borrowed now = €560,144 (€590,000 ÷ 1.0533)

With spot rate of 0.5294 the US\$ deposit will be = US\$1,058,073

Deposit amount over 3 months with interest @3.83% will be = US\$1,098,597

In this case, more will be received in US\$ under the forward hedge.

(b) Return for the year (all changes on a per year basis)

Particulars	₹ /Unit
Change in price (₹ 13.00 – ₹ 12.25)	0.75
Dividend received	1.25
Capital gain distribution	<u>1.00</u>
Total Return	<u>3.00</u>

$$\text{Return on investment} = \frac{3.00}{12.25} \times 100 = 24.49\%$$

If all dividends and capital gain are reinvested into additional units at ₹ 12.50 per unit the position would be.

$$\text{Total amount reinvested} = ₹ 2.25 \times 300 = ₹ 675$$

$$\text{Additional units added} = \frac{₹ 675}{12.50} = 54 \text{ units}$$

$$\text{Value of 354 units as on 31-12-2012} = ₹ 4,602$$

$$\text{Price paid for 300 units on 31-12-2011} (300 \times ₹ 12.25) = ₹ 3,675$$

$$\text{Return} = \frac{\text{₹ } 4,602 - \text{₹ } 3,675}{\text{₹ } 3,675} = \frac{\text{₹ } 927}{\text{₹ } 3,675} = 25.22\%$$

4. (a) Calculation of Investment Amount

Amount required for making payment on 30th January, 2013 = ₹ 80,00,000

Investment in Certificates of Deposit (CDs) on 31st October, 2012

Rate of interest = 8% p.a.

No. of days to maturity = 91 days

Interest on ₹ 1 of 91 days

(Re. 1 × 0.08 × 91/365) = 0.0199452

Amount to be received for Re. 1

(Re.1.00 + ₹ 0.0199452) = 1.0199452

Calculation of amount to be invested now to get ₹ 80 lakhs after 91 days:

$$= \frac{\text{₹ } 80,00,000}{\text{₹ } 1.0199452} = \text{₹ } 78,43,558.65$$

Or, ₹ 78,43,600 or ₹ 78,44,000 approximately.

(b) (i) The Betas of two stocks:

Aggressive stock - 40% - 4%/25% - 7% = 2

Defensive stock - 18% - 9%/25% - 7% = 0.50

(ii) Expected returns of the two stocks:-

Aggressive stock - 0.5 × 4% + 0.5 × 40% = 22%

Defensive stock - 0.5 × 9% + 0.5 × 18% = 13.5%

(iii) Expected return of market portfolio = 0.5 × 7% + 0.5 × 25% = 16%

∴ Market risk prem. = 16% - 7.5% = 8.5%

∴ SML is, required return = 7.5% + βi 8.5%

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

Where

α = Alpha

β = Beta

R_m = Market Return

For Aggressive Stock

22% = α_A + 2(16%)

$$\alpha_A = -10\%$$

For Defensive Stock

$$13.5\% = \alpha_D + 0.50(16\%)$$

$$\alpha_D = 5.5\%$$

- 5 (a) (i) Existing share price of Hanky (P) Ltd.

$$g = r \times b$$

$$r = 15\%$$

$$b = 20\%$$

$$g = 0.15 \times 0.2$$

$$= 0.03$$

$$\begin{aligned} \text{Ex dividend market value} &= \frac{\text{Next year's dividend}}{k_e - g} \\ &= \frac{6,50,00,000 \times 0.8 \times 1.03}{0.21 - 0.03} \\ &= ₹ 29,75,55,556 \\ &= ₹ 59.51 \text{ per share} \end{aligned}$$

Existing share price Shanky (P) Ltd.

$$g = r \times b$$

$$= 0.15 \times 0.8$$

$$= 0.12$$

$$\begin{aligned} \text{Ex dividend market value} &= \frac{\text{Next year's dividend}}{k_e - g} \\ &= \frac{2,40,00,000 \times 0.2 \times 1.12}{0.24 - 0.12} \\ &= ₹ 4,48,00,000 \\ &= ₹ 29.87 \text{ per share} \end{aligned}$$

- (ii) Value of Hanky Ltd. after the takeover

Care must be taken in calculating next year's dividend and the subsequent growth rate. Next year's earnings are already determined, because both companies have already reinvested their retained earnings at the current rate of return. In addition, they will get cost savings of ₹ 85,00,000.

The dividend actually paid out at the end of next year will be determined by

the new 35% retention and the future growth rate will take into account the increased return on new investment.

Growth rate for combined firm, $g = 0.17 \times 0.35$

$= 0.06$

New cost of equity $= 20\%$

Next year's earnings $= ₹6,50,00,000 \times 1.03 + ₹2,40,00,000 \times 1.12 + ₹85,00,000$

$= ₹10,23,30,000$

Next year's dividend $= ₹10,23,30,000 \times 0.65$

$= ₹6,65,14,500$

Market value $= \frac{₹6,65,14,500}{0.2 - 0.06}$

$= ₹47,51,03,571$

(iii) Maximum Hanky Ltd. should pay for Shanky Ltd.

Combined value $= ₹47,51,03,571$

Present Value of Hanky Ltd. $= ₹29,75,55,556$

$= ₹17,75,48,015$

(b) Evaluation of project utilizes of Project A and Project B

	Project A		
Cash flow (in ₹)	Probability	Utility	Utility value
-15,000	0.10	-100	-10
10,000	0.20	-60	-12
15,000	0.40	40	16
10,000	0.20	30	6
5,000	0.10	20	<u>2</u>
			<u>2</u>

	Project B		
Cash flow (in ₹)	Probability	Utility	Utility value
-10,000	0.10	-60	-6

-4,000	0.15	-3	-0.45
15,000	0.40	40	16
5,000	0.25	20	5
10,000	0.10	30	3
			<u>17.55</u>

Project B should be selected as its expected utility is more

- 6 (a) (i) The EPS of the firm is ₹10 (i.e., ₹ 2,00,000/20,000). The P/E Ratio is given at 12.5 and the cost of capital, k_e , may be taken at the inverse of P/E ratio. Therefore, k_e is 8 (i.e., $1/12.5$). The firm is distributing total dividends of ₹1,50,000 among 20,000 shares, giving a dividend per share of ₹7.50. The value of the share as per Walter's model may be found as follows:

$$\begin{aligned}
 P &= \frac{D}{K_e} + \frac{(r/K_e)(E-D)}{K_e} \\
 &= \frac{7.50}{.08} + \frac{(.10/.08)(10-7.5)}{.08} \\
 &= ₹132.81
 \end{aligned}$$

The firm has a dividend payout of 75% (i.e., ₹1,50,000) out of total earnings of ₹2,00,000. Since, the rate of return of the firm, r , is 10% and it is more than the k_e of 8%, therefore, by distributing 75% of earnings, the firm is not following an optimal dividend policy. The optimal dividend policy for the firm would be to pay zero dividend and in such a situation, the market price would be

$$\begin{aligned}
 P &= \frac{D}{k_e} + \frac{(r/K_e)(E-D)}{K_e} \\
 &= \frac{0}{.08} + \frac{(.10/.80)(10-0)}{.08} \\
 &= ₹156.25
 \end{aligned}$$

So, theoretically the market price of the share can be increased by adopting a zero payout.

- (ii) The P/E ratio at which the dividend policy will have no effect on the value of the share is such at which the k_e would be equal to the rate of return, r , of the firm. The K_e would be 10% ($=r$) at the P/E ratio of 10. Therefore, at the P/E ratio of 10, the dividend policy would have no effect on the value of the share.

- (iii) If the P/E is 8 instead of 12.5, then the k_e which is the inverse of P/E ratio, would be 12.5 and in such a situation $k_e > r$ and the market price, as per Walter's model would be

$$P = \frac{D}{K_e} + \frac{(r/K_e)(E-D)}{K_e}$$

$$= \frac{7.50}{.125} + \frac{(.1/.125)(10-7.5)}{.125}$$

$$= ₹76$$

The optimal dividend policy for the firm would be to pay 100% dividend and market price of share in such case would be

$$P = \frac{10.0}{0.125} + \frac{(0.1/0.125)(10-10)}{0.125}$$

$$= ₹ 80$$

- (b) (i) Let P be the buyback price decided by Abhishek Ltd.**

Market Capitalisation After Buyback:

1.1 P (Original Shares – Shares Bought back)

$$= \left[1.1P \left(10 \text{ Lakhs} - \frac{30\% \text{ of } 90 \text{ lakhs}}{P} \right) \right]$$

$$= 11 \text{ Lakhs} \times P - 27 \text{ lakhs} \times 1.1 = 11 \text{ lakhs} \times P - 29.7 \text{ lakhs}$$

Market capitalization rate after buyback is 200 lakhs.

Thus, we have:

$$11 \text{ Lakhs} \times P - 29.7 \text{ lakhs} = ₹200 \text{ lakhs}$$

$$\text{or } 11P = 200 + 29.7$$

$$\text{or } P = \frac{229.7}{11} = ₹ 20.88$$

- (ii) Number of shares to be bought back:**

$$= \frac{27 \text{ Lakhs}}{20.88} = 1.29 \text{ lakhs (Approximately)}$$

- (iii) New Equity Shares**

$$= (10 - 1.29) \text{ lakhs} = 8.71 \text{ lakhs}$$

$$\text{EPS} = \frac{3 \times 10 \text{ lakhs}}{8.71 \text{ lakhs}} = \frac{30 \text{ L}}{8.71 \text{ L}} = \text{Rs. } 3.44$$

Thus EPS of Abhishek Ltd., increases to ₹3.44

7. (a) NBFC stands for Non-Banking financial institutions, and these are regulated by the Reserve Bank of India under RBI Act, 1934. A Non-Banking Financial Company (NBFC) is a company registered under the Companies Act, 1956 and is engaged in the business of loans and advances, acquisition of shares/stock/bonds/debentures/securities issued by Government or local authority or other securities of like marketable nature, leasing, hire-purchase, insurance business, chit business but does not include any institution whose principal business is that of agriculture activity, industrial activity, sale/purchase/construction of immovable property/. NBFC's principal business is receiving of deposits under any scheme or arrangement or in any other manner or lending on any other manner. They normally provide supplementary finance to the corporate sector.

- (b) Commercial paper (CP) has its origin in the financial markets of America and Europe. When the process of financial dis-intermediation started in India in 1990, RBI allowed issue of two instruments, viz., the Commercial Paper (CP) and the Certificate of Deposit (CD) as a part of reform in the financial sector as suggested by Vaghul Committee. A notable feature of RBI Credit Policy announced on 16.10.1993 was the liberalisation of terms of issue of CP. At present it provides the cheapest source of funds for corporate sector and banks. Its market has picked up considerably in India due to interest rate differentials in the inter-bank and commercial lending rates.

Commercial Paper (CP) is an unsecured debt instrument in the form of a promissory note issued by highly rated borrowers for tenors ranging between 15 days and one year. "Corporates raise funds through CPs on an on-going basis throughout the year". It is generally issued at a discount freely determined by the market to major institutional investors and corporations either directly by issuing corporation or through a dealer bank.

Thus, CP is a short term unsecured promissory note issued by high quality corporate bodies directly to investors to fund their business activities.

- (c) It is an instrument in the form of a depository receipt or certificate created by the Overseas Depository Bank outside India denominated in dollar and issued to non-resident investors against the issue of ordinary shares or FCCBs of the issuing company. It is traded in stock exchange in Europe or USA or both. A GDR usually represents one or more shares or convertible bonds of the issuing company.

A holder of a GDR is given an option to convert it into number of shares/bonds that it represents after 45 days from the date of allotment. The shares or bonds which a holder of GDR is entitled to get are traded in Indian Stock Exchanges. Till

conversion, the GDR does not carry any voting right. There is no lock-in-period for GDR.

- (d) Generally, a big company takes over a small company. When the smaller company gains control of a larger one then it is called "Take-over by reverse bid". In case of reverse take-over, a small company takes over a big company. This concept has been successfully followed for revival of sick industries.

The acquired company is said to be big if any one of the following conditions is satisfied:

- (i) The assets of the transferor company are greater than the transferee company;
- (ii) Equity capital to be issued by the transferee company pursuant to the acquisition exceeds its original issued capital, and
- (iii) The change of control in the transferee company will be through the introduction of minority holder or group of holders.

Reverse takeover takes place in the following cases:

- (1) When the acquired company (big company) is a financially weak company
- (2) When the acquirer (the small company) already holds a significant proportion of shares of the acquired company (small company)
- (3) When the people holding top management positions in the acquirer company want to be relieved off of their responsibilities.

The concept of take-over by reverse bid, or of reverse merger, is thus not the usual case of amalgamation of a sick unit which is non-viable with a healthy or prosperous unit but is a case whereby the entire undertaking of the healthy and prosperous company is to be merged and vested in the sick company which is non-viable.

- (e) Strategies at different levels are the outcomes of different planning needs. There are basically three types of strategies:
- (i) **Corporate Strategy:** At the corporate level planners decide about the objective or objectives of the firm along with their priorities and based on objectives, decisions are taken on participation of the firm in different product fields. Basically a corporate strategy provides with a framework for attaining the corporate objectives under values and resource constraints, and internal and external realities. It is the corporate strategy that describes the interest in and competitive emphasis to be given to different businesses of the firm. It indicates the overall planning mode and propensity to take risk in the face of environmental uncertainties.
 - (ii) **Business Strategy:** It is the managerial plan for achieving the goal of the business unit. However, it should be consistent with the corporate strategy of

the firm and should be drawn within the framework provided by the corporate planners. Given the overall competitive emphasis, business strategy specifies the product market power i.e. the way of competing in that particular business activity. It also addresses coordination and alignment issues covering internal functional activities. The two most important internal aspects of a business strategy are the identification of critical resources and the development of distinctive competence for translation into competitive advantage.

- (iii) **Functional Strategy:** It is the low level plan to carry out principal activities of a business. In this sense, functional strategy must be consistent with the business strategy, which in turn must be consistent with the corporate strategy. Thus strategic plans come down in a cascade fashion from the top to the bottom level of planning pyramid and performances of functional strategies trickle up the line to give shape to the business performance and then to the corporate performance.