



PAPER – 2

ADVANCED FINANCIAL MANAGEMENT



QUESTIONS

International Financial Management

1. A US parent company has subsidiaries in France, Germany, UK and Italy. The amounts due to and from the affiliates is converted into a common currency viz. US dollar and entered in the following matrix.

Inter Subsidiary Payments Matrix (US \$ Thousands)

		Paying affiliate				
		France	Germany	UK	Italy	Total
Receiving affiliate	France	---	80	120	200	400
	Germany	120	---	80	160	360
	UK	160	120	---	140	420
	Italy	200	60	120	---	380
	Total	480	260	320	500	1560

The treasurer of US Parent company is suggesting that by applying Multilateral Netting system the company can save a lot of transfer/exchange costs. The company's Board agreed with Treasurer's proposal.

From the information given above, choose the correct answer to the following questions:

- I. Before applying Multilateral Netting it is necessary to apply.....
- (a) Unilateral Netting
 - (b) Bilateral Netting

- (c) Multilateral Netting
- (d) Interest Rate Swapping
- II. Through Multinational Netting these transfers will be reduced to
.....
 - (a) \$ 50,000
 - (b) \$ 100,000
 - (c) \$ 150,000
 - (d) \$ 200,000
- III. The Net Payment/ Net Receipts for France after netting off shall
be.....
 - (a) Net Receipt \$ 40,000
 - (b) Net Payment \$ 80,000
 - (c) Net Payment \$ 40,000
 - (d) Net Receipt \$ 80,000

Foreign Exchange Exposure and Risk Management

2. On 20.10.2024, the credit balance of an Indian bank in NOSTRO account with LMN Bank in London was £ 1,60,000 and the overbought position was £ 1,00,000. During the day, the following transactions have taken place.

Events	Time	Amount (£)
DD Purchased	11:08	50,000
Purchased a bill on London	11:50	150,000
Sold forward TT	13:15	100,000
Forward purchase contract cancelled	13:55	50,000
Remitted by TT	14:45	85,000
Draft in London cancelled	15:00	40,000

Based on the above scenario, choose the most appropriate answer for the following multiple-choice questions:

- I. How much was the total amount of purchase commitments made during the day by the Indian Bank?
 - (a) £ 2,00,000
 - (b) £ 1,50,000
 - (c) £ 3,40,000
 - (d) £ 50,000

- II. The final cash balance in the NOSTRO account at the end of 20.10.24 stands at
 - (a) £ 85,000
 - (b) £ 75,000
 - (c) £ 20,000
 - (d) £ 160,000

- III. The transaction took place atshall affect both exchange & cash position of the bank with LMN Bank.
 - (a) 11:08
 - (b) 11:50
 - (c) 14:45
 - (d) 15:00

- IV. If at the end of day bank is required to maintain a credit balance of £ 20,000 in the NOSTRO account, then it.....
 - (a) shall buy forward £ 15,000
 - (b) shall sell spot TT £ 55,000
 - (c) shall buy spot TT £ 55,000
 - (d) shall sell forward £ 55,000

- V. If bank takes required steps to maintain a credit balance of £ 20,000 in the Nostro account, then what additional step was required to achieve the overbought position of £ 65,000?
- (a) Buying forward £ 15,000
 - (b) Selling forward £ 65,000
 - (c) Buying forward £ 60,000
 - (d) Selling forward £ 15,000

Advanced Capital Budgeting Decisions

3. KLM Ltd., is considering taking up one of the two projects-Project-A and Project-B. Both the projects having same life require equal investment of ₹ 8.00 crore each. Both are estimated to have almost the same yield. As the company is new to this type of business, the cash flow arising from the projects cannot be estimated with certainty. An attempt was therefore, made to use probability to analyse the pattern of cash flow from other projects during the first year of operations. This pattern is likely to continue during the life of these projects. The results of the analysis are as follows:

Project A		Project B	
Cash Flow (in ₹ Crore)	Probability	Cash Flow (in ₹ Crore)	Probability
1.10	0.10	0.90	0.10
1.30	0.20	1.30	0.25
1.50	0.40	1.70	0.30
1.70	0.20	2.10	0.25
1.90	0.10	2.50	0.10

Advise which of the two projects should be accepted, keeping in view the risk assumed in relation to the expected return on the investment.

Note: Round off calculations upto three decimal points.

Security Valuation

4. Shares of V Ltd. are currently quoted at a trailing Price-to-Earnings (P/E) ratio of 8 times. As per the existing policy, the company recently retained ₹ 5 per share, representing 45% of its Earnings per Share (EPS), for ploughing back into the business.

You are required to compute:

- The cost of equity to the company if the market expects a growth rate of 15% p.a.
- If the anticipated growth rate is 16% per annum, calculate the indicative market price with the same cost of capital.
- If the company's cost of capital is 20% p.a. & the anticipated growth rate is 19% p.a., calculate the market price per share.

Note: Round off calculations upto 2 decimals.

Business Valuation

5. Following information is given in respect of Alpha Ltd., which is expected to grow at a rate of 20% p.a. for the next three years, after which the growth rate will stabilize at 8% p.a. normal level, in perpetuity.

	For the year ended March 31, 2023
Revenues	₹ 15,000 Crores
Cost of Goods Sold (COGS)	₹ 6,000 Crores
Operating Expenses	₹ 4,500 Crores
Capital Expenditure	₹ 1,500 Crores
Depreciation (included in Operating Expenses)	₹ 1,200 Crores

During high growth period, Revenues & Earnings before Interest & Tax (EBIT) will grow at 20% p.a. and capital expenditure net of depreciation will grow at 15% p.a.

From year 4 onwards, i.e. normal growth period revenues and EBIT will grow at 8% p.a. and incremental capital expenditure will be offset by the depreciation. During both high growth & normal growth period, net working capital requirement will be 25% of revenues.

Out of total capital, 60% constitute Equity and rest is Debt. The cost of equity is 17.53% and pre-tax cost of debt is 16%.

Corporate Income Tax rate is 30%.

Required:

Estimate the value of Alpha Ltd. using Free Cash Flows to the Firm (FCFF).

The PVIF @ 15 % for the three years are as below:

Year	t ₁	t ₂	t ₃
PVIF	0.8696	0.7561	0.6575

Note: Carry out calculation in ₹ Crore and round off figures upto two decimal points.

Derivatives Analysis & Valuation

6. Following is the information available pertaining to shares of O Ltd.:

Current Market Price (₹)	₹ 840.00
Maximum Expected Price (₹) in 6 Months, with a 45% Probability	₹ 1050.00
Minimum Expected Price (₹) in 6 Months	₹ 756.00
Continuously Compounded Rate of Interest (p.a.) (%)	7.00%

Required:

- Assuming that a 6-month European call option on the shares of O Ltd. is available with a strike price of ₹ 900.00, calculate the value of the call option using the Replicating Portfolio Approach and the Risk-Neutral Valuation Method.
- Examine whether the given probability can be applied to determine the value of the option using the Risk-Neutral Valuation Method.

Note: (1) $e^{0.035} = 1.0356$

(2) Round off all calculations upto 2 decimal points.

Interest Rate Risk Management

7. Two companies ABC Ltd. and XYZ Ltd. approach the DEF Bank for FRA (Forward Rate Agreement). Both companies want to borrow a sum of ₹ 100 crores after 2 years for a period of 1 year. Bank has calculated Yield Curve of both companies as follows:

Year	XYZ Ltd.	ABC Ltd.
1	3.86%	4.12%
2	4.20%	5.48%
3	4.48%	5.78%

Required:

- Identify at least one reason for difference in the Yield Curve for the companies.
- Calculate the rate of interest DEF Bank would quote to both companies for 2V3 FRA, using the company's yield information as quoted above.
- Suppose DEF Bank offers Interest Rate Guarantee at 5% for a premium of 0.10% of the amount of loan, calculate the cost of interest for XYZ Ltd. if interest rate for one year in 2 years turns out to be
 - 4.50%
 - 5.50%

Portfolio Management

8. You are given the following information related to the return from various securities:

	Effective Annual Return			
	Probability	LMN Ltd.	XYZ Ltd.	Risk free Bond
Economic Situation I	0.40	5%	15%	4%
Economic Situation II	0.60	25%	5%	4%

Portfolio Mix Matrix

	Shares of LMN Ltd.	Shares of XYZ Ltd.	Risk Free Bond
Portfolio A	75%	25%	0%
Portfolio B	75%	0%	25%
Portfolio C	100%	0%	0%

Required:

- (i) Calculate the expected return and risk of each Portfolio.
- (ii) Assess these Portfolios from the perspective of:
 - (I) a Risk Averse investor and,
 - (II) a Risk Seeker investor.

Mergers, Acquisitions and Corporate Restructuring

9. The directors of E. Ltd. are considering the acquisition of the entire capital of a private limited company, A (P) Ltd. Both companies being financed by equity.

The acquisition would take place on 1st April 2027. E Ltd. has deputed a person to collect sufficient relevant information. This person has discovered that a public limited company, named T Ltd. most closely resembling A(P) Ltd. It has equity cost of capital of 19.30% and has a PE Ratio of 7.9. T Ltd. is engaged in the same line of business as A (P) Ltd. and possess similar business and financial risk.

The following details relating to E Ltd. and A (P) Ltd. have been compiled by the same person:

- (i) The cost of capital of E Ltd. is 15.85%. As per his estimates, if A (P) Ltd. is acquired, the cash flow of E Ltd. for the year 2027-28 will be increased by an amount equal to 105% of the net profit of the year 2026-27 of A(P) Ltd. before deducting director's emoluments.
- (ii) In addition to that post acquisition cash flow generated by A (P) Ltd. shall constitute 30% of total cash generated of the combined firm. Further it is predicted that the cash flows of E Ltd. will increase

by 5% per annum in 2028-29 and subsequent years whether A(P) Ltd. is acquired or not.

- (iii) Following is the net profit figures of A(P) Ltd. (after deduction of director's emoluments).

Year	Net Profit
2021-22	₹ 6.19 Crore
2022-23	₹ 6.00 Crore
2023-24	₹ 5.24 Crore
2024-25	₹ 6.04 Crore
2025-26	₹ 6.28 Crore
2026-27 (Estimated)	₹ 7.90 Crore

The draft annual statements of the year 2026-27 also show that the net assets of A (P) Ltd. are ₹ 36.18 crore on historic cost basis and ₹ 63.75 crore on replacement cost basis. He also estimated that the net assets of A (P) Ltd. would realise ₹ 40 Crore on liquidation.

- (iv) The two directors and only shareholders are Mr. and Mrs. A, whose emoluments appear to average 10% of the net profits figures, after deducting those emoluments.

Required:

You as CFO of E Ltd. has been asked to suggest the maximum amount the directors of E Ltd. would be willing to pay for the acquisition of A (P) Ltd.

Note: Carry out calculation in ₹ Crore and round off figures upto four decimal points.

Mutual Funds

10. The Investment portfolio of a Fund is as follows:

Government Bond	Coupon Rate (%)	Purchase Rate (FV ₹ 100 per Bond)	Duration (Years)
GOI 2026	11.68	106.50	3.50
GOI 2030	7.55	105.00	6.50

GOI 2035	7.38	105.00	7.50
GOI 2042	8.35	110.00	8.75
GOI 2052	7.95	101.00	13.00

Face value of total Investment is ₹ 5 crores in each Government Bond.

Required:

- (i) Identify the type of the Fund.
- (ii) Calculate NAV per unit of the Fund if number of units is 2.50 crore.
- (iii) Suggest a suitable action to reduce risk by churning out investment portfolio in the following scenario:
 - A. Interest rates are expected to lower by 25 basis points.
 - B. Interest rates are expected to raise by 75 basis points.

Also calculate the revised duration of investment portfolio in each scenario.

Note: Use simple average to make calculations.

Security Analysis

11. The data pertains to the share prices of A Ltd. is as follows:

Days	Date	Open Price (₹)	High Price (₹)	Low Price (₹)	Close Price (₹)
1	14-12-20xx	334.71	335.14	334.38	334.54
2	15-12-20xx	334.54	334.78	334.28	334.35
3	16-12-20xx	334.14	334.40	333.98	334.32
4	17-12-20xx	334.35	334.46	333.78	333.83
5	18-12-20xx	333.73	333.80	333.52	333.71
6	21-12-20xx	333.76	333.89	333.31	333.41
7	22-12-20xx	333.41	333.41	333.11	333.31
8	23-12-20xx	333.27	333.41	333.06	333.35
9	24-12-20xx	333.07	333.28	332.96	333.02

10	28-12-20xx	332.99	333.19	332.54	332.59
11	29-12-20xx	332.60	332.29	332.42	332.52
12	30-12-20xx	332.56	332.89	332.49	332.86
13	31-12-20xx	332.89	335.36	332.56	333.29
14	04-01-20x1	333.35	333.46	332.77	332.84
15	05-01-20x1	332.94	333.11	332.79	332.99
16	06-01-20x1	333.00	333.38	333.00	333.25
17	07-01-20x1	333.23	333.56	333.22	333.30
18	08-01-20x1	333.23	333.46	333.17	333.20
19	11-01-20x1	333.18	333.21	332.94	333.02
20	14-12-20x1	332.91	333.25	332.80	333.20

Evaluate whether the Relative Strength Index (RSI) of A Ltd.'s stock indicates a bullish or bearish trend using the 14-day RSI.

Note: Round off calculations upto 2 decimal points.

Theoretical Questions

12. Explain the areas in which the role of the CFO has expanded beyond the traditional role in the post-pandemic era.
13. Explain the term "Political Risk" and its various forms. Is Political Risk covered under Financial Risk? If so, explain the reasons for the same.
14. Explain how the performance Securitization performance is impacted by market risk.

OR

Explain the term Angel Investor and its role in context of Startup Finance.



SUGGESTED ANSWERS/HINTS

Question No.	Answer
1. I	(b)
II	(d)
III	(b)
2. I	(c)
II	(b)
III	(c)
IV	(b)
V	(a)

3. Calculation of Variance and Standard Deviation

Project A

Expected Net Cash Flow

$$= (0.10 \times 1.10) + (0.20 \times 1.30) + (0.40 \times 1.50) + (0.20 \times 1.70) + (0.10 \times 1.90)$$

$$= 0.11 + 0.26 + 0.60 + 0.34 + 0.19 = 1.50$$

$$\sigma^2 = 0.10(1.10 - 1.50)^2 + 0.20(1.30 - 1.50)^2 + 0.40(1.50 - 1.50)^2 + 0.20(1.70 - 1.50)^2 + 0.10(1.90 - 1.50)^2$$

$$= 0.016 + 0.008 + 0 + 0.008 + 0.016 = 0.048$$

$$\sigma = \sqrt{0.048} = 0.219$$

Project B

Expected Net Cash Flow

$$= (0.10 \times 0.90) + (0.25 \times 1.30) + (0.30 \times 1.70) + (0.25 \times 2.10) + (0.10 \times 2.50)$$

$$= 0.09 + 0.325 + 0.51 + 0.525 + 0.25 = 1.70$$

$$\sigma^2 = 0.1(0.90 - 1.70)^2 + 0.25(1.30 - 1.70)^2 + 0.30(1.70 - 1.70)^2 + 0.25(2.10 - 1.70)^2 + 0.10(2.50 - 1.70)^2$$

$$= 0.064 + 0.04 + 0 + 0.04 + 0.064 = 0.208$$

$$\sigma = \sqrt{0.208} = 0.456$$

To advise which of the two projects should be accepted, keeping in view the risk assumed in relation to the expected return on the investment we shall calculate the Coefficient of Variation as follows:

$$\text{Coefficient of Variation} = \frac{\text{Standard Deviation}}{\text{Mean}}$$

$$\text{Project A} = \frac{0.219}{1.50} = 0.146$$

$$\text{Project B} = \frac{0.456}{1.70} = 0.268$$

Advice: Since Project A has lower Coefficient of Variation it has a better the risk-return tradeoff.

4. (i) Cost of Capital

Retained earnings (45%) ₹ 5 per share

Dividend (D_0) (55%) ₹ 6.11 per share

EPS (E_0) (100%) ₹ 11.11 per share

P/E Ratio 8 times

Market price ₹ $11.11 \times 8 = ₹ 88.88$

Cost of equity capital

$$= \left(\frac{\text{Div}}{\text{Price}} \times 100 \right) + \text{Growth \%} = \frac{6.11(1+0.15)}{88.88} \times 100 + 15\% = 22.91\%$$

$$\begin{aligned} \text{(ii) Market Price} &= \left(\frac{\text{Dividend}}{\text{Cost of Capital(\%)} - \text{Growth Rate(\%)}} \right) \\ &= \frac{₹ 6.11(1+0.16)}{(22.91 - 16)\%} = ₹ 102.57 \text{ per share} \end{aligned}$$

$$\text{(iii) Market Price} = \frac{₹ 6.11(1+0.19)}{(20 - 19)\%} = ₹ 727.09 \text{ per share}$$

5. Determination of forecasted Free Cash Flow to the Firm (FCFF)

(₹ in crores)

	Yr. 1	Yr. 2	Yr. 3	Terminal Year
Revenue	18000.00	21600.00	25920.00	27993.60
COGS	7200.00	8640.00	10368.00	11197.44
Operating Expenses	3960.00*	4752.00	5702.40	6158.59
Depreciation	1440.00	1728.00	2073.60	2239.49
EBIT	5400.00	6480.00	7776.00	8398.08
Tax @30%	1620.00	1944.00	2332.80	2519.42
EAT	3780.00	4536.00	5443.20	5878.66
Capital Exp. – Dep.	345.00	396.75	456.26	-
Δ Working Capital	750.00	900.00	1080.00	518.40
Free Cash Flow (FCF)	2685.00	3239.25	3906.94	5360.26

* Excluding Depreciation.

Calculation of WACC

$$= 60\% \times 17.53\% + 40\% \times 16\% (1-0.30)$$

$$= 15\%$$

Present Value (PV) of FCFF during the explicit forecast period is:

FCFF (₹ in crores)	PVF @ 15%	PV (₹ in crores)
2685.00	0.8696	2334.88
3239.25	0.7561	2449.20
3906.94	0.6575	2568.81
		7352.89

PV of the terminal, value is:

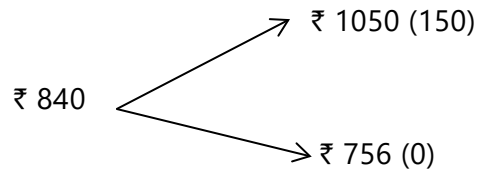
$$\frac{5360.26}{0.15 - 0.08} \times (\text{PVIF } 15\%, 3) = ₹ 76575.14 \text{ Crore} \times 0.6575$$

$$= ₹ 50348.15 \text{ Crore}$$

The value of the firm is:

$$₹ 7352.89 \text{ Crores} + ₹ 50348.15 \text{ Crores} = ₹ 57701.04 \text{ Crores}$$

6. (i) (A) Call Option value using Replicating Portfolio Approach



$$\Delta = \frac{₹150 - ₹0}{₹1050 - ₹756} = 0.51$$

$$\text{Initial Investment} = 0.51 \times ₹ 840 = ₹ 428.40$$

Value of Portfolio if Price goes down to ₹ 756.

$$\text{Value of holding } 0.51 \times ₹ 756 = ₹ 385.56$$

Accordingly Let 'P' be the option price, then

$$₹ 428.40 - P = ₹ 385.56 / 1.0356 = ₹ 372.31$$

$$P = ₹ 56.09$$

(B) Value of Call Option using Risk Neutral Method

Let 'P' be the probability of Price increase, then

$$p \times 1050 + (1 - p) \times 756 = 840(1.0356)$$

$$147p = 50.48$$

$$p = 0.39$$

Probability of Price increase = 0.39

Probability of Price decrease = 0.61

Accordingly, the price of the options shall be:

$$\frac{0.39 \times 150 + 0.61 \times 0}{1.0356} = ₹ 56.49$$

- (ii) In Risk Neutral Model, valuation of options is based on arbitrage and is therefore independent of risk preferences; one should be able to value options assuming any set of risk preferences and get the same answer. Hence, the given probability cannot be used to

value the option. Instead, the risk-neutral probability should be computed and used for valuing the option.

7. (i) The difference in yield curve may due to the lower credit rating of ABC Ltd. compared to XYZ Ltd.

- (ii) DEF Bank will fix interest rate for 2V3 FRA after 2 years as follows:

XYZ Ltd.

$$(1+r) (1+0.0420)^2 = (1+0.0448)^3$$

$$(1+r) (1.0420)^2 = (1.0448)^3$$

$$r = 5.04\%$$

Bank will quote 5.04% for a 2V3 FRA.

ABC Ltd.

$$(1+r) (1+0.0548)^2 = (1+0.0578)^3$$

$$(1+r) (1.0548)^2 = (1.0578)^3$$

$$r = 6.38\%$$

Bank will quote 6.38% for a 2V3 FRA.

- (iii) Interest payable by XYZ Ltd. under two scenarios will be computed as follows:

		4.50% Option is allowed to be lapsed	5.50% Option is Exercised
Interest	₹ 100 crores X 4.50%	₹ 4.50 crores	-
	₹ 100 crores X 5.04%*	-	₹ 5.04 crores
Premium (Cost of Option)	₹ 100 crores X 0.10%	₹ 0.10 crores	₹ 0.10 crores
		₹ 4.60 crores	₹ 5.14 crores

* Since after 2 years 1 year interest rate turned out to be 5.50%, it will be beneficial for XYZ Ltd. to exercise its option.

8. (i) Expected Return of different Portfolios

To calculate expected return of different Portfolios first we shall calculate the expected return each security as follows:

$$\text{Share of LMN } E(R_L) = 5\% \times 0.40 + 25\% \times 0.60 = 17\%$$

$$\text{Share of XYZ } E(R_X) = 15\% \times 0.40 + 5\% \times 0.60 = 9\%$$

$$\text{Risk Free Bond} = 4\%$$

Expected Returns from Portfolios

$$\text{Portfolio A} = 0.75 \times 17\% + 0.25 \times 9\% = 15\%$$

$$\text{Portfolio B} = 0.75 \times 17\% + 0.25 \times 4\% = 13.75\%$$

$$\text{Portfolio C} = 17\%$$

To calculate risk of each Portfolio, first we shall calculate risk i.e. Variance and Standard Deviations of each security and covariance between LMN & XYZ and LMN & Risk Free Bonds as follows:

Variance of LMN Ltd.

$$= 0.40 \times (5 - 17)^2 + 0.60 \times (25 - 17)^2$$

$$= 0.40 \times 144 + 0.60 \times 64 = 96$$

Variance of XYZ Ltd.

$$= 0.40 \times (15 - 9)^2 + 0.60 \times (5 - 9)^2$$

$$= 0.40 \times 36 + 0.60 \times 16 = 24$$

Variance of Risk free Bond – 0

Covariance between LMN and XYZ

Scenario	Prob. (P)	$(R_L - \bar{R}_L)$	$(R_X - \bar{R}_X)$	$(R_L - \bar{R}_L) (R_X - \bar{R}_X) P$
Situation I	0.40	(5% - 17%)	(15% - 9%)	28.80%
Situation II	0.60	(25% - 17%)	(5% - 9%)	- 19.20%
				- 48.00%

Covariance between share of LMN and Risk Free Bond shall be Zero.

$$\text{Variance of Portfolio} = (w_1)^2 (\sigma_1)^2 + (w_2)^2 (\sigma_2)^2 + 2 w_1 w_2 \text{Cov}_{12}$$

Variance of Portfolio A

$$= (0.75)^2 (96) + (0.25)^2 (24) + 2 (0.75) (0.25) (-48) = 54 + 1.50 - 18 = 37.50$$

$$\text{Risk of Portfolio A } (\sigma_A) = \sqrt{37.50} = 6.12$$

Variance of Portfolio B

$$= (0.75)^2 (96) + (0.25)^2 (0) = 54$$

$$\text{Risk of Portfolio B } (\sigma_B) = \sqrt{54} = 7.35$$

$$\text{Risk of Portfolio C } (\sigma_C) = \sqrt{96} = 9.80$$

- (ii) (I) Since a Risk neutral investor judges the portfolio only by expected return and ignore the risk factor and hence will choose Portfolio C having maximum return and that too without any risk.
- (II) Risk Seeker investor chooses the portfolio taking into account both risk and return. Though greater return is penalized depending on how much extra risk is taken considering return achieved. There can be two ways to select the Portfolio one on the basis of covariance as due to negative covariance he may opt for Portfolio A as return is bit higher than Portfolio B.

Alternatively, Portfolio can also be chosen based on Coefficient of Variation as follows:

$$\text{Portfolio A} = 6.12/15 = 0.408$$

$$\text{Portfolio B} = 7.35/13.75 = 0.535$$

$$\text{Portfolio C} = 9.80/17 = 0.576.$$

Since CV is best in case of Portfolio A it should be opted for as it results better risk- return trade off.

9. The maximum amount which the directors of E Ltd. should pay for the acquisition of A (P) Ltd. is equal to the increase in wealth of E Ltd.'s shareholders as a result of the acquisition. This increase will come from extra cash flows generated for the shareholders of E Ltd. either as an

income-producing going concern or by sale of its assets, on by combination of the two.

Since from the fact given there is no hint that the directors of E Ltd. have any intention to liquidate the A (P) Ltd. the present value of additional cash generated will be used to calculate the addition in the wealth (equivalent to the value of A (P) Ltd.) of shareholders of E Ltd. consequent upon acquisition. Using analyst's estimate first we shall Calculate additional cash flow to be generated due to acquisition is as follows.

	₹ Crore
Profit of A (P) Ltd. for the year 2026-27	7.90
Add: Director's Remuneration	0.79
	8.69
Addition of Cash in the year 2027-28 @105%.	9.1245

Now the addition to the shareholder's wealth can be calculated using following two approaches:

Approach I

Assuming 5%. (as used above) growth rate be continued the PV of additional Cash generated Shall be:

$$₹ 9.1245 \text{ crore} / (0.193 - 0.05) = ₹ 63.8077 \text{ crores}$$

Approach II

Alternatively, 30%. of additional cash flow generated for combined can also be used to compute the same value as follows: -

However, in such situation the discount rate to be used shall be weighted average cost of capital i.e.

$$0.70 \times 15.85\% + 0.30 \times 19.30\% = 16.89\%$$

	₹ Crore
Cash Flow of A(P) Ltd. for the year 2027-28	9.1245
Thus, combined cash flow of E Ltd. $(100/30) \times 9.1245$	30.4150
The Combined Value of Firm = $30.4150 / (0.1689 - 0.05)$ (A)	255.8032

Portion of Cash flow pertain to E Ltd. 0.70×30.4150	21.2905
Value of E Ltd. alone = $21.2905 / (0.1585 - 0.05)$ (B)	196.2258
Increase in Value & Firm due to acquisition (A) – (B)	59.5774

Decision: - Though any of Value ₹ 63.8077 crore or ₹ 59.5774 crore can be offered to acquire A (P) Ltd. but the amount of ₹ 59.5774 is more appropriate to offer as it accounts for direct impact on cash flow of E Ltd. due to acquisition of A (P) Ltd.

10. (i) This type of Fund is a Gilt Fund as the amount of fund is invested in dated Government Securities.
- (ii) To calculate NAV per unit first we shall calculate of actual investment of Funds as follows:

Security	Purchase price	Investment (₹ in lakhs)
GOI 2026	106.50	532.50*
GOI 2030	105.00	525.00
GOI 2035	105.00	525.00
GOI 2042	110.00	550.00
GOI 2052	101.00	505.00
	Total	<u>2,637.50</u>

$$* \frac{\text{₹ 5 crores}}{\text{₹ } 100 \times 1,00,000} \times \text{₹ } 106.50$$

Accordingly, the NAV per units shall be:

$$\frac{\text{₹ } 2637.50 \text{ Lakhs}}{250 \text{ Lakhs}} = \text{₹ } 10.55$$

- (iii) Suitable action to churn out investment portfolio in following scenario is to reduce risk and to maximize profit or minimize losses.

$$\text{Average Duration} = \frac{3.5 + 6.5 + 7.5 + 8.75 + 13.00}{5} = \frac{39.25}{5} = 7.85 \text{ years}$$

- (A) Interest rates are expected to be lower by 25 basis points in such case increase the average duration by purchasing GOI

2052 and disposing of GOI 2026.

$$\begin{aligned}\text{Revised average duration shall be} &= \frac{39.25 - 3.5 + 13}{5} \\ &= \frac{48.75}{5} = 9.75 \text{ years}\end{aligned}$$

- (B) Interest rates are expected to rise by 75 basis points in such case reduce the average duration by (*) Purchasing GOI 2030 and disposing of GOI 2052.

$$\begin{aligned}\text{Revised average duration shall be} &= \frac{39.25 - 13 + 6.5}{5} \\ &= \frac{32.75}{5} = 6.55 \text{ years}\end{aligned}$$

(*) Purchasing of GOI 2026 is not beneficial as maturity period is very short and 75 basis points is comparatively higher change.

Thus, it can be said that the in first case the duration of portfolio is revised from 7.85 years to 9.75 years. In second case it stands revised from 7.85 years to 6.55 years.

11. To calculate the RSI, we shall use the **closing prices** of A Ltd.'s stock. For the 14-day RSI, we shall first calculate the moving averages of gains and losses for the initial 14-day period and subsequently update these moving averages for each succeeding day, as shown in the table below. The RSI for the 14th day onwards shall then be calculated using the following formula:

$$\text{RSI} = 100 - \frac{100}{(1 + \text{RS})}$$

$$\text{Where RS} = \frac{\text{Average Gain Per Day}}{\text{Average Loss Per Day}}$$

Further this updation in Avg Gain and Avg Loss columns for subsequent days shall be computed using following formula:

$$\frac{\text{Previous Day Avg Gain/Loss} \times 13}{14}$$

	Date	Closing Price	Change	Gain	Loss	Avg Gain	Avg Loss	RS	14-day RSI
1	14-12-20xx	334.54							
2	15-12-20xx	334.35	-0.19	0.00	0.19				
3	16-12-20xx	334.32	-0.03	0.00	0.03				
4	17-12-20xx	333.83	-0.49	0.00	0.49				
5	18-12-20xx	333.71	-0.12	0.00	0.12				
6	21-12-20xx	333.41	-0.30	0.00	0.30				
7	22-12-20xx	333.31	-0.10	0.00	0.10				
8	23-12-20xx	333.35	0.04	0.04	0.00				
9	24-12-20xx	333.02	-0.33	0.00	0.33				
10	28-12-20xx	332.59	-0.43	0.00	0.43				
11	29-12-20xx	332.52	-0.07	0.00	0.07				
12	30-12-20xx	332.86	0.34	0.34	0.00				
13	31-12-20xx	333.29	0.43	0.43	0.00				
14	04-01-20x1	332.84	-0.45	0.00	0.45				
15	05-01-20x1	332.99	0.15	0.15	0.00	0.07	0.18	0.39	28.06
16	06-01-20x1	333.25	0.26	0.26	0.00	0.08	0.17	0.47	31.97
17	07-01-20x1	333.30	0.05	0.05	0.00	0.08	0.16	0.50	34.21
18	08-01-20x1	333.20	-0.10	0.00	0.10	0.07	0.16	0.44	30.55
19	11-01-20x1	333.02	-0.18	0.00	0.18	0.07	0.16	0.44	30.50
20	12-01-20x1	333.20	0.18	0.18	0.00	0.08	0.15	0.53	34.64

Interpretation

The 14-day RSI on Day 20 is 34.64.

The conventional interpretation of RSI is:

- Above 70: Overbought
- 50–70: Bullish/positive momentum
- 30–50: Bearish/weak momentum
- Below 30: Oversold

Conclusion – Since the RSI is 34.64, it is below 50, indicating that the stock is experiencing bearish momentum. Although the RSI has recovered from 28.06 on Day 15 to 34.64 on Day 20, it remains below 50 and therefore does not yet provide confirmation of a bullish trend i.e. stock is still in bearish zone.

12. In post-pandemic time their role has been advanced in the following areas in addition to their traditional role:
- Risk Management:* Now a days the CFOs are expected to look after the overall functioning of the framework of Risk Management system of an organisation.
 - Supply Chain:* Post pandemic supply chain management system has been posing the challenge for the company to maintain the sustainable growth. Since CFOs are care takers of finance of the company, considering the financial viability of the Supply Chain Management their role has now become more critical.
 - Mergers, acquisitions, and Corporate Restructuring:* Since in recent period to maintain the growth and capture the market share there has been a spate of Mergers and Acquisitions and hence the role of CFOs has become more crucial because these are strategic decision and any error in them can lead to collapse of the whole business.
 - Environmental, Social and Governance (ESG) Financing:* With the evolving of the concept of ESG their role has been shifted from traditional financing to sustainability financing.
13. Political Risk is faced by and overseas investors, as the adverse action by the government of host country may lead to huge losses. This can be on any of the following form.
- Confiscation or destruction of overseas properties.
 - Rationing of remittance to home country.
 - Restriction on conversion of local currency of host country into foreign currency.
 - Restriction as to borrowings.

- Invalidation of Patents
- Price control of products

Though political risk is not a financial risk in direct sense but same can be included as any unexpected political change in any foreign country may lead to country risk which may ultimately may result in financial loss.

14. Market risks represent risks external to the transaction and include market-related factors that impact the performance of the securitization transaction. Some of these risks are as follows:

- (a) *Macroeconomic risks:* The performance of the underlying loan contracts depends on macroeconomic factors, such as industry downturns or adverse price movements of the underlying assets. For example, in the transportation industry a continuous decline in industrial production may lead to a downtrend in the use of services of the Commercial Vehicles (CVs) adversely impacting the cash flow of CVs operators. This in turn, may impact repayments on CV loans. Similarly, a fall in the prices of the CVs may increase chances of default as the borrower may wilfully default the loan and let the finance company repossess and sell the underlying vehicle instead of retaining it and continuing to pay instalments on time.
- (b) *Prepayment risks:* A change in the market interest rate represents a difficult situation for investors because it is a combination of prepayment risk and volatile interest rates. With a reduction in interest rates generally prepayment of retail loans increases, resulting in reinvestment risk for investors because investors may receive their monies ahead of schedule and may not be able to reinvest the amount at the same yield.
- (c) *Interest rate risks:* This risk is prominent where the loans in the pool are based on a floating rate and investor pay-outs are based on a fixed rate or vice versa. It results in an interest rate mismatch and can lead to a situation where the pool cash inflow, even at 100% collection efficiency, is not sufficient to meet investor pay-

outs. Interest rate swaps can be used to hedge this type of risk to some extent.

OR

As per Investopedia, Angel investors invest in small startups or entrepreneurs. Often, angel investors are among an entrepreneur's family and friends. The capital angel investors provide may be a one-time investment to help the business propel or an ongoing injection of money to support and carry the company through its difficult early stages.

Angel investors provide more favorable terms compared to other lenders, since they usually invest in the entrepreneur starting the business rather than the viability of the business. Angel investors are focused on helping startups take their first steps, rather than the possible profit they may get from the business. This makes their approach slightly different from venture capitalists.

Angel investors are also called informal investors, angel funders, private investors, seed investors or business angels. They are affluent individuals who inject capital for startups in exchange for ownership equity or convertible debt. Some angel investors invest through crowdfunding platforms online or build angel investor networks to pool in capital.

Angel investors typically use their own money, unlike venture capitalists who take care of pooled money from many other investors and place them in a strategically managed fund.

Though angel investors usually represent individuals, the entity that actually provides the fund may be a limited liability company, a business, a trust or an investment fund, among many other kinds of vehicles.

Angel investors who seed startups that fail during their early stages lose their investments completely. This is why professional angel investors look for opportunities for a defined exit strategy, acquisitions or initial public offerings (IPOs).