

GUIDANCE ANSWERS TO MAY / JUNE 2009 CA FINAL EXAMINATIONS

MANAGEMENT ACCOUNTING & FINANCIAL ANALYSIS (Old Syllabus)

Question No.1(a): Evaluation of Projects – Risk Analysis — 14 Marks

Shivam Ltd is considering two mutually exclusive Projects A and B. Project A costs Rs.36,000 and Project B costs Rs.30,000. You have been given below the net present value probability distribution for each project –

Project A		Project B	
NPV Estimate (Rs.)	Probability	NPV Estimate (Rs.)	Probability
15,000	0.2	15,000	0.1
12,000	0.3	12,000	0.4
6,000	0.3	6,000	0.4
3,000	0.2	3,000	0.1

1. Compute the expected Net Present Value of Projects A and B.
2. Compute the risk attached to each project i.e. Standard Deviation of each probability distribution.
3. Compute the probability index of each project.
4. Which project would you recommend? State with reasons.

Solution:

1. Project A (Rs.000's)

NPV Estimate (N)	Probability (P)	Expected NPV	Deviation from Expected NPV (D)	Square of Deviation [D ²]	Variance [P × D ²]
(1)	(2)	(3) = (1) × (2)	(4) = (1) – Σ(3)	(5)	(6) = (2) × (5)
15	0.2	3.0	6.0	36.0	7.2
12	0.3	3.6	3.0	9.0	2.7
6	0.3	1.8	(3.0)	9.0	2.7
3	0.2	0.6	(6.0)	36.0	7.2
Expected NPV		9.0			19.8

2. Project B (Rs.000's)

NPV Estimate (N)	Probability (P)	Expected NPV	Deviation from Expected NPV (D)	Square of Deviation [D ²]	Variance [P × D ²]
(1)	(2)	(3) = (1) × (2)	(4) = (1) – Σ(3)	(5)	(6) = (2) × (5)
15	0.1	1.5	6.0	36.0	3.6
12	0.4	4.8	3.0	9.0	3.6
6	0.4	2.4	(3.0)	9.0	3.6
3	0.1	0.3	(6.0)	36.0	3.6
Expected NPV		9.0			14.4

3. Evaluation (Rs. In 000's)

Particulars		Project A	Project B
Variance	[σ ²]	19.8	14.4
Standard Deviation	[σ] [Risk Associated with the Project]	√19.8 = 4.45	√14.4 = 3.79
Expected NPV		9.0	9.0
Co-efficient of Variation	[Standard Deviation ÷ Expected NPV]	0.49 (4.45 ÷ 9.0)	0.42 (3.79 ÷ 9.0)

Investment		36.0	30.0
Total Inflows	[Investment + Expected NPV]	45.0 [36 + 9]	39.0 [30 + 9]
Profitability Index	[Total Inflows ÷ Investment]	1.25 [45 ÷ 36]	1.30 [39 ÷ 30]

Observation: Project A is more risky than Project B, as the standard deviation is higher for Project A. Project B is also better in terms of return since the Profitability Index is higher.

Conclusion: Project B should be preferred.

Question No.1(b): Interest Coverage Ratio — 6 Marks

Presently a Company is working with an earnings before interest and taxes (EBIT) of Rs.90 Lakhs. Its present borrowings are as follows — (Rs. In Lakhs)

12% Term Loan	300
Working Capital Borrowings – Borrowing from Bank @ 15%	200
Fixed Deposits at 11%	90

The sales of the Company are growing and to support this, the Company proposes to obtain additional borrowing of Rs.10 Lakhs at a cost of 16%. The increase in EBIT is expected to be 18%. Calculate the present and the revised interest coverage ratio and comment.

Solution: Computation of Interest Coverage Ratio

Particulars	Present	Revised
EBIT	90.00	90.00 + 18% = 106.20
Interest Payments –		
12% Term Loan (Rs.300 Lakhs × 12%)	36.00	36.00
Working Capital Loan from Bank (Rs.200 Lakhs × 15%)	30.00	30.00
Fixed Deposits (Rs.90 Lakhs × 11%)	9.90	9.90
New Loan (Rs.100 Lakhs × 16%)	—	16.00
Total of Interest	75.90	91.90
Interest Coverage Ratio (EBIT ÷ Total Interest)	1.19	1.16

Observations:

1. Additional Borrowings does not result in proportionate additional earnings (Rs.16 Lakhs interest for Rs.16.20 Lakhs earnings), and thereby reducing the interest coverage ratio.
2. Though, Interest Coverage Ratio has gone down, it is still above the benchmark number of 1.
3. With no additional equity inflow, the additional financing will be marginally beneficial to the equity shareholders (by Rs.0.20 Lakhs).

Question No.2(a): Mergers – Swap Ratio, Gain / Loss on Merger — 10 Marks

Following information is provided relating to the acquiring company Mani Ltd and the target company Ratnam Ltd –

Particulars	Mani Ltd	Ratnam Ltd
Earnings After Tax (Rs.Lakhs)	2,000	4,000
No. of Shares Outstanding (Lakhs)	200	1,000
P/E Ratio (No. of Times)	10	5

Required –

1. What is the swap ratio based on current market prices?
2. What is the EPS of Mani Ltd after the acquisition?
3. What is the expected market price per share of Mani Ltd after the acquisition, assuming its PE Ratio is adversely affected by 10%?
4. Determine the market value of the merged Company.
5. Calculate gain / loss for the shareholders of the two independent entities, due to the merger.

Solution:

1. Computation of EPS and Market Price per Share

Particulars	Mani Ltd	Ratnam Ltd
Earnings After Tax (Rs.Lakhs)	2,000.00	4,000.00
No. of Shares (Lakhs)	200.00	1,000.00
Earnings Per Share (EPS)	Rs.10.00	Rs.4.00
PE Ratio	10	5
Market Price per Share (EPS × PE Multiple)	Rs.100	Rs.20

2. Computation of Swap Ratio

$$\text{Swap Ratio (Exchange Ratio)} = \frac{\text{MPS of Selling Company i.e. Ratnam Ltd}}{\text{MPS of Buying Company i.e. Mani Ltd}} = \frac{\text{Rs.20}}{\text{Rs.100}} = 0.20$$

Exchange ratio is 0.20 i.e. 0.20 Shares of Mani Ltd per share of Ratnam Ltd, based on current market prices.

$$\begin{aligned} \text{Total Number of Shares Issued} &= \text{Exchange Ratio} \times \text{Shares outstanding in Ratnam Ltd} \\ &= 0.20 \times 1,000 = 200 \text{ Lakhs Shares} \end{aligned}$$

3. Computation of EPS and Market Price per Share

Particulars	Mani (Merged)
Earnings After Tax (Rs.Lakhs) (Rs.2,000 Lakhs + Rs.4,000 Lakhs)	6,000.00
No. of Shares (Lakhs) (Existing 200 Lakhs + New Issue 200 Lakhs)	400.00
Earnings Per Share (EPS)	Rs.15.00
PE Ratio (Existing 10 Less Adverse Effect 10%)	9
Market Price per Share (EPS × PE Multiple) of Merged Entity	Rs.135.00
Market Value of Merged Entity (Shares × MPS)	Rs.54,000 Lakhs

4. Computation of Gain/ Loss for Shareholders of the Two Independent Companies

Particulars	Mani Ltd	Ratnam Ltd
Market Price per Share (After Merger)	Rs.135.00	Rs.135.00
Comparable MPS before merger (Post Merger EPS × Swap Ratio)	Rs.135.00	Rs.27.00 (Rs.135 × 0.20)
Pre-Merger MPS	Rs.100.00	Rs.20.00
Gain in Value per Share	Rs.35.00	Rs.7.00

Shareholders of both the Companies have gained as the result of the merger.

Question No.2(b): Business Valuation — 10 Marks

X Ltd reported a profit of Rs.65 Lakhs after 35% Tax for the financial year 2007–08. An analysis of the accounts revealed that the income included extra–ordinary items Rs.10 Lakhs and an extra–ordinary loss of Rs.3 Lakhs. The existing operations, except for the extra–ordinary items, are expected to continue in the future. In addition, the results of the launch of a new product are expected to be as follows – (Rs.Lakhs)

Sales	60
Material Costs	15
Labour Costs	10
Fixed Costs	8

You are required to —

- Compute the value of the business, given that the capitalization rate is 15%.
- Determine the market price per equity share, with X Ltd's share capital being comprised of 1,00,000 11% Preference Shares of Rs.100 each and 40,00,000 Equity Shares of Rs.10 each, and PE Ratio being 8 times.

Solution:

1. Computation of Value of Business

Particulars		Rs.Lakhs
Earnings After Tax for the last year		65.00
Add: Taxes at 35% [$\text{Tax Rate } 35\% \div [100 - \text{Tax Rate}] \times \text{EAT Rs.65 Lakhs}$]		35.00
Profits Before Tax		100.00
Less: Extra Ordinary Income – Not To Recur in the Future		(10.00)
Add: Extra Ordinary Loss – Not to recur in the Future		3.00
Add: Additional Income from New Launch		
Sales	60.00	
Less: Material Costs	(15.00)	
Labour Costs	(10.00)	
Fixed Costs	(8.00)	27.00
Future Expected Earnings Before Tax		120.00
Less: Taxes at 35%		(42.00)
Future Expected Earnings After Tax		78.00
Less: Preference Dividend (11% of Rs.100 Lakhs)		(11.00)
Equity Earnings		67.00
Capitalisation Rate		15%
Value of Business (Ignoring Capital Structure) [$78 \div 15\%$]		520.00
After Considering Capital Structure		
Value of Equity (Equity Earnings $67.00 \div 15\%$)	446.67	
Value of Preference Capital (Face Value, in the absence of an identified Preference Expectation Rate)	100.00	546.67

2. Value of Market Price Per Equity Share

Based on	Projected Earnings	Past Year's Earnings
Equity Earnings	67.00	65.00
No. of Equity Shares (Lakhs)	40.00	40.00
Earnings Per Share (Rs.67 / 65 Lakhs $\div$ 40 Lakhs)	1.675	1.625
PE Multiple	8	8
Market Price Per Share	Rs.13.40	Rs.13

Question No.3(a): Leasing vs. Owning — 14 Marks

Sundaram Ltd discounts its cash flows at 16% and is in the tax bracket of 35%. For the acquisition of a machinery worth Rs.10,00,000, it has two options – either to acquire the asset by taking a Bank Loan @ 15% p.a. repayable in 5 Yearly installments of Rs.2,00,000 each plus interest or to lease the asset at yearly rentals of Rs.3,34,000 for 5 Years. In both cases, the installments is payable at the end of the year. Depreciation is to be applied at the rate of 15% using “Written Down Value” (WDV) method. You are required to advise which of the financing options is to be exercised and why.

Solution:

1. Computation of Tax Savings on Depreciation

Year	Opg. WDV	Depreciation at 15%	Tax Savings @ 35%
1	10,00,000	1,50,000	52,500
2	10,00,000 – 1,50,000 = 8,50,000	1,27,500	44,625
3	8,50,000 – 1,27,500 = 7,22,500	1,08,375	37,931
4	7,22,500 – 1,08,375 = 6,14,125	92,119	32,242
5	6,14,125 – 92,119 = 5,22,006	78,301	27,405

2. Computation of Net Present Cost of Loan Option

Year	Opg. Principal	Interest at 15%	After Tax Interest	Principal	Tax Savings	Total Cash Flows	DF @ 16%	Discounted Cash Flow
1	10,00,000	1,50,000	97,500	2,00,000	(52,500)	2,45,000	0.862	2,11,190
2	8,00,000	1,20,000	78,000	2,00,000	(44,625)	2,33,375	0.743	1,73,398
3	6,00,000	90,000	58,500	2,00,000	(37,931)	2,20,569	0.641	1,41,385
4	4,00,000	60,000	39,000	2,00,000	(32,242)	2,06,758	0.552	1,14,130
5	2,00,000	30,000	19,500	2,00,000	(27,405)	1,92,095	0.476	91,437
5	Salvage Value (assumed to be equal to Closing WDV)					(4,43,705)	0.476	(2,11,204)
	Net Present Cost							5,20,336

Total Cash Flows = After Tax Interest + Principal Installment – Tax Savings on Depreciation

3. Computation of Net Present Cost under Lease Option

Particulars	Rs.
Annual Lease Rental	3,34,000
Less: Taxes at 35%	(1,16,900)
After Tax Lease Rental	2,17,100
Annuity Factor at 16% p.a. for 5 Years	3.274
Net Present Cost of Leasing Option	7,10,785

Analysis and Conclusion: Borrow and Purchase option is better than Leasing mode of acquiring the asset, since the net present cost is lower.

Question No.3(b): Capital Investment Decisions – Capital Rationing — 6 Marks

Briefly explain the term “Capital Rationing”.

Answer:

- Resource Constraint:** There may be situations where a Firm has a number of projects that yield a positive NPV. However, the most important resource in investment decisions, i.e. funds, are not fully available to undertake all the projects. Such a situation is considered as a Resource Constraint situation.

2. **Capital Rationing:** In case of restricted availability of funds, the objective of the firm is to maximize the wealth of shareholders with the available funds. Such investment planning is called Capital Rationing. There are two possible situations of Capital Rationing –
- Generally, Firms fix up maximum amount that can be invested in capital projects, during a given period of time, say a year. This budget ceiling imposed **internally** is called as **Soft Capital Rationing**.
 - There may be a market constraint on the amount of funds available for investment during a period. This inability to obtain funds from the market, due to **external factors** is called **Hard Capital Rationing**.
3. **NPV Maximisation:** Whenever Capital Rationing exists, the Firm should allocated the limited funds available in such a way that maximizes the NPV of the Firm. The following principles may be applied in selecting the appropriate investment proposals / combinations –
- | Nature of Project | Indivisible | Divisible |
|-----------------------------------|---|--|
| Meaning | Investment should be made in full. Partial or Proportionate investment is not possible. | Partial Investment is possible and proportionate NPV can be obtained. |
| Steps involved in Decision-making | <ul style="list-style-type: none"> Determine the combination of projects to utilise amount available. Compute NPV of each combination. Select combination with maximum NPV | <ul style="list-style-type: none"> Compute PI of various projects and rank them based on PI. Projects are selected based on maximum Profitability Index. |
4. **Other Factors:** In the above procedure, it is assumed that the investment funds are restricted for one period only, i.e. if investment is not made immediately, the project will lapse. However, in the following situations, additional mathematical techniques are adopted to resolve the Capital Rationing problem –
- Cost of investment projects spread over several periods,
 - Projects providing relatively higher cash flows in earlier years, which can be used for increasing the fund availability for other projects in those early years.

Question No.4(a): Options – Pay Off Determination — 10 Marks

The equity share of VCC Ltd is quoted at Rs.210. A 3-month call option is available at a premium of Rs.6 per share and a 3-month put option is available at a premium of Rs.5 per share. Ascertain the net pay-offs to the option holder of a call option and a put option given that –

- Strike price in both cases is Rs.220; and
- The share price on the exercise day is Rs.200, Rs.210, Rs.220, Rs.230 and Rs.240

Also indicate the price range at which the call option and the put options may be gainfully exercised.

Solution:

1. Pay-Off Table for Call Option

Spot Price on Expiry Date (SP _E)	Position	Action	Value of Option (if Exercised)	Premium	Net Pay Off
Rs.200	Out of Money	Lapse	NIL	Rs.6	(Rs.6)
Rs.210	Out of Money	Lapse	NIL	Rs.6	(Rs.6)
Rs.220	At the Money	Lapse	NIL	Rs.6	(Rs.6)
Rs.230	In the Money	Exercise	Rs.10	Rs.6	Rs.4
Rs.240	In the Money	Exercise	Rs.20	Rs.6	Rs.14

2. Pay-Off Table for Put Option

Spot Price on Expiry Date (SP _E)	Position	Action	Value of Option (if Exercised)	Premium	Net Pay Off
Rs.200	In the Money	Exercise	Rs.20	Rs.6	Rs.14
Rs.210	In the Money	Exercise	Rs.10	Rs.6	Rs.4
Rs.220	At the Money	Lapse	NIL	Rs.6	(Rs.6)
Rs.230	Out of Money	Lapse	NIL	Rs.6	(Rs.6)
Rs.240	Out of Money	Lapse	NIL	Rs.6	(Rs.6)

3. Price Range for Gainful Exercise of the Options

Call Option = Spot Price on Expiry Date $\geq$ Exercise Price i.e. Greater than Rs.220

Put Option = Spot Price on Expiry Date $\leq$ Exercise Price i.e. Less than Rs.220

Question No.4(b): Mutual Funds – Annual Rate of Return — 4 Marks

A mutual fund that had a net asset value of Rs.16 at the beginning of a month, made income and capital gain distribution of Re.0.04 and Re.0.03 respectively per unit during the month, and then ended the month with a Net Asset Value of Rs.16.08. Calculate monthly and annual rate of return.

Solution:

Particulars	Amount (Rs.)
Opening NAV	16.00
Closing NAV	16.08
Capital Appreciation = Closing NAV – Opening NAV = 16.08 – 16.00	0.08
Dividend Distribution (Income Distribution)	0.04
Capital Gain Distribution	0.03
Total Return for the period = Capital Appreciation + Income + Capital Gains = 0.08 + 0.04 + 0.03	0.15
Monthly Return = Total Return ÷ Opening NAV = 0.15 ÷ 16	0.9375% p.m.
Annual Return = Monthly Return × 12 = 0.9375 × 12	11.25% p.a.

Question No.4(c): Debt Securitisation — 4 Marks

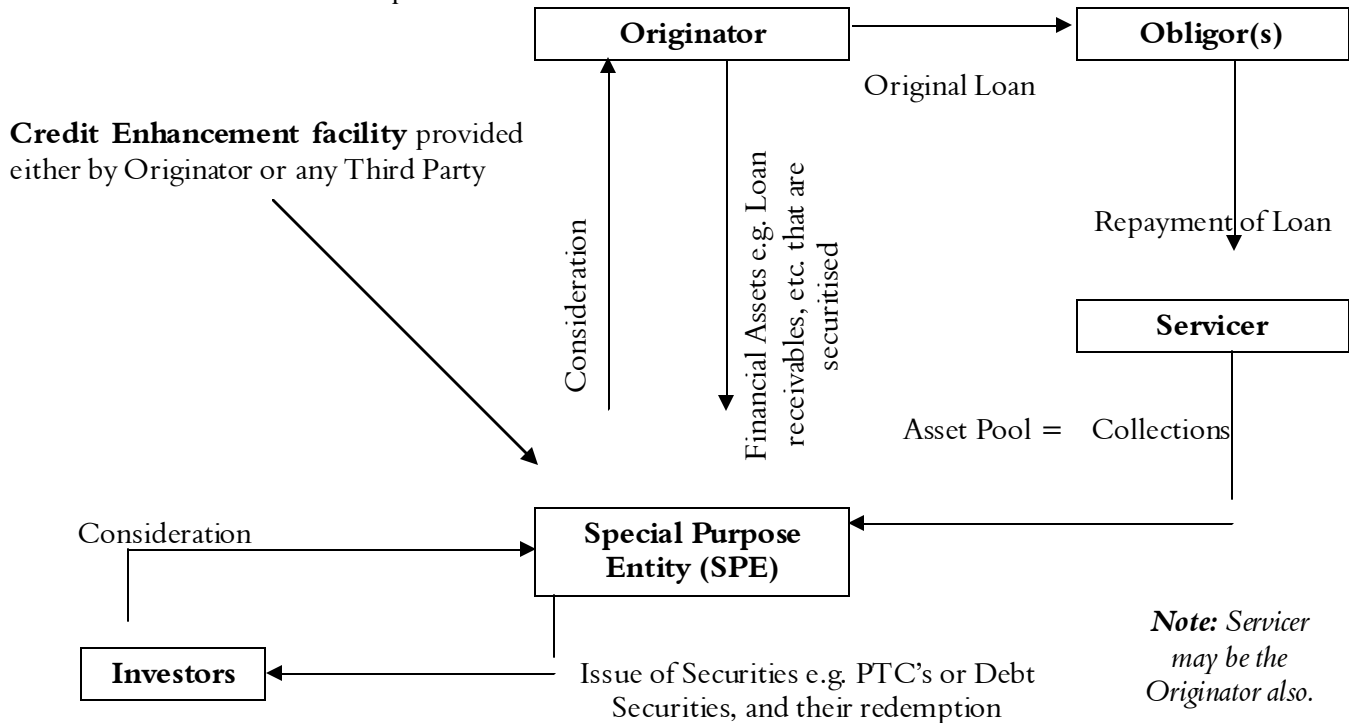
Explain the term “Debt Securitisation”.

Answer: Also See Page 3.5 Q No.11 of Padhuka’s MAFA – A Students’ Referencer

1. Securitisation:

- Securitisation is the process by which financial assets (e.g. Loan Receivables, Mortgage backed receivables, Credit Card balances, Hire Purchase Debtors, Trade Debtors, etc.) are **transformed into securities**. Securitisation is different from Factoring since the latter involves transfer of debts without transformation thereof into securities.
- Securitisation is a mode of financing, wherein securities are issued on the basis of a package of assets (called Asset Pool). In this method of recycling funds, assets generating steady cash flows are packaged together and against this asset pool, market securities can be issued.

2. **Securitisation Flow:** The parties involved and the Securitisation Process is described as under –



Note: Special Purpose Entity (SPE) may also be called Special Purpose Vehicle (SPV).

3. **Securitisation Process:**

- Initial Lending / Origination Function:** Originator gives various Loans to different Borrowers (Obligors). Borrowers have to repay the loans in EMI's (Interest + Principal). These EMI's constitute financial assets / receivables for the Originator.
- Securitisation Function:** Financial Assets / Receivables or defined rights therein, are transferred, fully or partly, by the Originator to a SPE. SPE pays the Originator immediately in cash or in any other consideration for taking over the financial assets. The assets transferred are termed '**Securitized Assets**' and the assets or rights retained by the Originator are called '**Retained Assets**'.
- Financing Function:** SPE finances the assets transferred to it by issue of securities such as Pass Through Certificates (PTCs) and/or debt securities to Investors. These are generally sold to Investors (Mutual Funds, LIC, etc), through Merchant Bankers.

Question No.5(a): International Finance – Exchange Rates — 6 Marks

The following 2-Way quotes appear in the foreign exchange market —

	Spot Rate	2-Months Forward
Rs. / US \$	Rs.46.00 / Rs.46.25	Rs.47.00 / Rs.47.50

Required —

- How many US Dollars should a firm sell to get Rs.25 Lakhs after two months?
- How many Rupees is the firm required to pay to obtain US \$ 2,00,000 in the spot market?
- Assume the firm has US \$ 69,000 in current account earning interest. ROI on Rupee Investment is 10% p.a. Should the firm encash the US \$ now or 2 months later?

Solution:

1. US Dollars for Rs.25 Lakhs in the Forward Market

Action	Sell Foreign Currency in Forward Market
Relevant Rate	Forward Bid Rate = Rs.47.00
US \$ Required to get Rs.25,00,000	$\text{Rs.25,00,000} \div \text{Rs.47.00} = \text{US \$ } 53,191.49$

2. Rs. Required to Obtain US Dollars 2,00,000 in the Spot Market

Action	Buy Foreign Currency in Spot Market
Relevant Rate	Spot Ask Rate = Rs.46.25
Rs. Required to obtain US \$ 2,00,000	$\text{US \$ } 2,00,000 \times \text{Rs.46.25} / \text{US \$} = \text{Rs.92,50,000}$

3. Evaluation of Investment in Rupee

$$\begin{aligned} \text{Forward Premium (for Bid Rates)} &= \frac{\text{Forward Rate Rs.47} - \text{Spot Rate Rs.46}}{\text{Spot Rate Rs.46}} \times \frac{12 \text{ Months}}{2 \text{ Months}} \times 100 \\ &= 13.04\% \end{aligned}$$

Observation and Conclusion Annualized Forward Premium for Bid Rates (13.04%) is greater than the Annual Return on Investment in Rupees (10%). Therefore, the firm should not encash its US \$ balance now. It should sell the US \$ in the forward market and encash them two months later.

Alternatively,

Particulars	Encash Now	Encash 2 Months Later
Relevant Rate	Spot Bid Rate = Rs.46.00	Forward Bid Rate = Rs.47.00
Rs. available for US \$ 69,000	Rs.31,74,000	Rs.32,43,000
Add: Interest for 2 Months (if converted now)	Rs.52,900 ($31,74,000 \times 10\% \times 2/12$)	Not Applicable
Amount Available after Two Months	Rs.32,23,900	Rs.32,43,000

Conclusion: Encashing two months later yields higher Rupee Return than encashing now and investing in Rupee Deposits. Therefore, the firm should wait for two months to encash under forward market.

Question No.5(b): Mutual Funds – Annual Rate of Return — 4 Marks

X & Co is contemplating whether to replace an existing machine or to spend money on overhauling it. X & Co currently pays no taxes. The replacement machine costs Rs.95,000 now and requires maintenance of Rs.10,000 at the end of every year for eight years. At the end of eight years it would have a salvage value of Rs.25,000 and would be sold. The existing machine requires increasing amounts of maintenance each year and its salvage value falls each year as follows —

Year	Maintenance (Rs.)	Salvage (Rs.)
Present	0	40,000
1	10,000	25,000
2	20,000	15,000
3	30,000	10,000
4	40,000	0

The opportunity cost of capital for X & Co., is 15%. You are required to state, when should the firm replace the machine.

**Solution: Also See Q No.40, Page 1.82 of Padhuka's MAFA – A Students' Referencer
(May 2004 Adapted)**

1. Computation of Equivalent Annual Cost of New Machine / Replace Now Option

Particulars	Cash Flow	Year	Disc. Factor	Disc. Cash Flow
Cost of New Machine	95,000	0	1.000	95,000
Annual Repairs Cost	10,000	1 – 8	4.4873	44,873
Total Cash Outgo towards Cost				1,34,870
Less: Salvage Value	25,000	8	0.3269	(8,173)
Present Cost of Owning and Operating New Machine				1,31,700
Annuity Factor at 15% for first 8 Years				4.4873
Equated Annual Cost [Present Cost ÷ Annuity Factor]				Rs.29,349

2. Computation of Equivalent Annual Cost of Existing Machine

Particulars	Year	Cash Flow	Disc. Factor @ 15%	Disc. Cash Flow	Present Value of Cash Flows			
					Replace 1 Yr Later	Replace 2 Yrs Later	Replace 3 Yrs Later	Replace 4 Yrs Later
Opportunity Cost of Salvage Value	0	40,000	1.000	40,000	40,000	40,000	40,000	40,000
Maintenance	1	10,000	0.870	8,700	8,700	8,700	8,700	8,700
Maintenance	2	20,000	0.756	15,120	—	15,120	15,120	15,120
Maintenance	3	30,000	0.658	19,740	—	—	19,740	19,740
Maintenance	4	40,000	0.572	22,880	—	—	—	22,880
Present Value of Opportunity Cost and Cash Outflows					48,700	63,820	86,560	1,06,440
Less: Proceeds of sale in Year	1	25,000	0.870	21,750	(21,750)	—	—	—
	2	15,000	0.756	11,340	—	(11,340)	—	—
	3	10,000	0.658	6,580	—	—	(6,580)	—
	4	—	0.572	—	—	—	—	—
Net Present Cost					26,950	52,480	79,980	1,06,440
Annuity Factor for Salvage Period					0.870 [1 Yr]	1.626 [2 Yrs]	2.283 [3 Yrs]	2.855 [4 Yrs]
Equated Annual Cost					30,977	32,276	35,033	37,282

Recommendation:

- The Equated Annual Cost under Replace Now Option (Rs. 29,349) is less than the Equated Annual Cost of Replacing the Existing machine at different points in time viz., After 1 year, 2 years, 3 years and 4 years respectively.
- Therefore, the Company should replace the machinery immediately.

Question No.5(c): Dividend Policy – Relevance of Dividend — 4 Marks

According to the position taken by Miller and Modigliani, dividend decision does not influence value. Please state briefly any two reasons, why companies should declare dividend and not ignore it.

Answer:

1. **Idle Funds vs. Invested Funds:** Retention of profits when there is no investment opportunities for the Company would result in funds staying idle. Instead, when distributed to shareholders, such funds may be invested productively by the investors themselves.
2. **Investors Preference:** Though all investors may not prefer dividends, many investors do prefer Cash Dividends for their cash flows without losing ownership stake.
3. **Market Perception:** A stable dividend policy is viewed positively by the market than a “no-dividend” policy.

Question No.6(a): Capital Budgeting – Risk Analysis – Sensitivity Analysis — 6 Marks
What is sensitivity analysis in Capital Budgeting?

Answer: Also See Q No.33 Page 1.23 of Padhuka’s “MAFA – A Students’ Referencer”

1. **Meaning:**

- (a) Sensitivity Analysis shows the measure of sensitivity of a decision due to changes in the values of one or more parameters.
- (b) In this analysis, each variable is fixed except one, which is changed to see the effect on NPV or IRR. It is a study which determines how changes or errors in the values of parameters affect the output of a model.

2. **Objectives:** Sensitivity Analysis seeks to provide the decision maker with information concerning –

- (a) the behaviour of the measure of economic effectiveness due to errors in estimating various values of the parameters; and
- (b) the potential for reversal in the preferences as for economic investment alternatives.

3. **Steps in Sensitivity analysis:**

Step	Description of Procedure
1	Conduct a base case analysis based on expectations for the future cash flows and ascertain Net Present Value, Internal Rate of Return and Profitability Index.
2	Identify key assumptions (variables) made in the base analysis.
3	Change one assumption at a time, and find the NPV, IRR or PI after the change.
4	Determine the extent of change in NPV / IRR / PI, due to change in variables, i.e. extent of sensitivity.
5	Summarize the conclusions based on findings obtained in Step 4. The extent of change in NPV / IRR / PI reflects the extent of inverse of extent of sensitivity.

4. **Criticisms:**

- (a) **Assumption of Unrelated Variables — Not Valid:** Sensitivity Analysis assumes variables to be completely unrelated to each other, which is generally not the case. It is only when the combined effect of changes in the set of inter-related variables is considered, a proper conclusion can be arrived at.
Example: Generally, when one variable changes, it may have an impact on other variables as well. If quantity of goods sold is reduced by 30% in sensitivity analysis, without adjusting the cost per unit, it would be inappropriate, since the scale of activity will have a bearing on cost / price per unit.
- (b) **Arbitrary:** While using sensitivity analysis, the Financial Analyst uses different values of the uncertain variables purely on adhoc basis. Assigning values in such an arbitrary fashion is unscientific.

Question No.6(b): Money Market Instruments – Commercial Paper — 4 Marks

Z Co. Ltd issued commercial paper worth Rs.10 Crores as per the following details —

Date of Issue	16.01.2009
Date of Maturity	17.04.2009
Number of Days	91
Interest Rate	12.04% p.a.

What was the net amount received by the Company on issue of Commercial Paper? (Charges of intermediary may be ignored)

Solution: Also See Q No.13 Page 8.15 of Padhuka's "MAFA – A Students' Referencer"

No. of days = 91

Interest rate = 12.04% p.a.

Interest for 91 days = $12.04\% \text{ p.a.} \times 91 \text{ days} / 365 \text{ days} = 3.00\%$
= $10 \text{ Crores} \times 3 / (100+3) = \text{Rs.}29,12,621$

Net amount received at the time of issue = $\text{Rs.}10,00,00,000 - \text{Rs.}29,12,621 = \text{Rs.}9,70,87,379$

Question No.6(c): Mutual Funds — 5 Marks

Explain briefly the advantages of investing in mutual funds.

Answer: Also See Q No.3 Page 6.2 of Padhuka's "MAFA – A Students' Referencer"

The advantages of investing in a Mutual Fund (MF) are—

1. **Professional Management:** Investors avail the services of experienced and skilled professionals who are backed by a dedicated investment research team which analyses the performance and prospects of companies and selects suitable investments to achieve the objectives of the scheme.
2. **Diversification:** MFs invest in a number of Companies across a broad cross-section of industries and sectors. Investors achieve this diversification through a MF with less money and risk.
3. **Convenient Administration:** Investing in a MF reduces paper work and helps investors to avoid many problems such as bad deliveries, delayed payments and unnecessary follow up with brokers and Companies.
4. **Return Potential:** Over a medium to long term, MF has the potential to provide a higher return as they invest in a diversified basket of selected securities.
5. **Low Costs:** MFs are a relatively less expensive way to invest compared to directly investing in the capital markets because the benefits of scale in brokerage, custodial and other fees translate into lower costs for investors.
6. **Liquidity:** In open ended schemes, investors can get their money back promptly at Net Asset Value (NAV) related prices from the Mutual Fund. With close-ended schemes, investors can sell their units on a stock exchange at the prevailing market price, or avail of the facility of direct repurchase at NAV related prices which some close ended and interval schemes offer periodically.
7. **Transparency:** Investors get regular information on the value of their investment in addition to disclosure on the specific investments made by scheme, the proportion invested in each class of assets and the Fund Manager's investment strategy and outlook.

Question No.6(d): Capital Financing — SIDBI – 5 Marks
Write a brief note on Small Industries Development Bank of India.

Answer:

1. **Formation:** SIDBI was formed in 1990 by IDBI and other Government of India undertakings as the principal development financial institution for promotion, financing and development of industries in the small scale sector.
2. **Mission of SIDBI:** To empower the Micro, Small and Medium Enterprises (MSME) sector with a view to contributing to the process of economic growth, employment generation and balanced regional development.
3. **Co-Ordination:** SIDBI also co-ordinates with the other institutions involved in development of small scale industries.