**100% Coverage Of CA Final June 09 MAFA Paper From Aaditya Jain Sir Assignment & Theory Book**

# June 2009 Suggested Answer Of

# MAFA

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## Aaditya Jain & Parag Gupta

**..............................**

**UNDISPUTED NAME OF INDIA FOR MAFA & COSTING**

**Roll No......................** **Total No. Of Printed Pages-5**
**Total No. of Question- 6** **Maximum Marks-100**
**Time Allowed-3 Hours**

**NOC**

**Answers to questions are to be given only in English except in the case of candidates who have opted for Hindi medium.If a candidate who has not opted for hindi medium,answers in hindi,his answers in hindi will not be valued. Question No. 1 is compulsory.Answer any four questions from the rest.Figures in the margin indicate marks alloted to each question.**

**Working notes should form part of the answer.**

**QUESTION NO. 1 (a) [14 Marks][Capital Budgeting Question No. 8A Of Aaditya Jain Sir Question Booklet]** A company is considering two mutually exclusive projects X and Y. Project X costs Rs. 30,000 and Project Y Rs. 36,000. You have been given below the net present value, probability distribution for each project:

| **Project X** | | **Project Y** | |
|---|---|---|---|
| **NPV Estimate** | **Probability** | **NPV Estimate** | **Probability** |
| 3,000 | 0.1 | 3,000 | 0.2 |
| 6,000 | 0.4 | 6,000 | 0.3 |
| 12,000 | 0.4 | 12,000 | 0.3 |
| 15,000 | 0.1 | 15,000 | 0.2 |

**(i)**Compute the Expected Net Present Value of Projects X and Y. **(ii)**Compute the risk attached to each project i.e., Standard Deviation of each probability distribution. **(iii)**Which project do you consider more risky and why? **(iv)**Compute the Profitability Index of each project

**Solution**

**(a)** **Project X**

| **NPV Estimate** | **Probability** | **NPV Estimate × Probability** | **Deviation from Expected NPV** | **Square of the deviation** | **Square of the deviation × Probability** |
|---|---|---|---|---|---|
| 3,000 | 0.1 | 300 | 6,000 | 3,60,00,000 | 36,00,000 |
| 6,000 | 0.4 | 2,400 | 3,000 | 90,00,000 | 36,00,000 |
| 12,000 | 0.4 | 4,800 | –3,000 | 90,00,000 | 36,00,000 |
| 15,000 | 0.1 | 1,500 | –6,000 | 3,60,00,000 | 36,00,000 |
| **Expected NPV** | | **9,000** | | | 1,44,00,000 |

**Project Y**

| **NPV Estimate** | **Probability** | **NPV Estimate × Probability** | **Deviation from Expected NPV i.e. Rs.** | **Square of the deviation** | **Square of the deviation × Probability** |
|---|---|---|---|---|---|
| 3,000 | 0.2 | 600 | 6,000 | 3,60,00,000 | 72,00,000 |
| 6,000 | 0.3 | 1,800 | 3,000 | 90,00,000 | 27,00,000 |
| 12,000 | 0.3 | 3,600 | –3,000 | 90,00,000 | 27,00,000 |
| 15,000 | 0.2 | 3,000 | –6,000 | 3,60,00,000 | 72,00,000 |
| **Expected NPV** | | **9,000** | | | 1,98,00,000 |

**(i) Expected Net Present Value :** The Expected Net Present Value of Project X and Y is Rs. 9,000 each.

**(ii)Standard Deviation :**

**Project X :** Standard Deviation= $\sqrt{\text{Rs. }1{,}44{,}00{,}000}$ =3,795.**Project Y :** Standard Deviation= $\sqrt{\text{Rs. }1{,}98{,}00{,}000}$ =4,450

| **(iii)** | **X** | **Y** |
|---|---|---|
| Expected NPV | 9,000 | 9,000 |
| Standard Deviation | 3795 | 4450 |

$$\text{Coefficient of Variation} = \frac{\text{Standard Deviation}}{\text{Expected Net Present Value}}$$

**Project X :** Coefficient of Variation = $\frac{3{,}795}{9{,}000}$ = 0.42;**Project Y :** Coefficient of Variation = $\frac{4{,}450}{9{,}000}$ = 0.49 or 0.50

Project Y is riskier since it has a higher coefficient of variation.

**(iv)** Profitability Index $= \dfrac{\text{Present Value of Cash Inflow}}{\text{Present Value of Cash Outflow}}$

**Project X :** Profitability Index $= \dfrac{9{,}000 + 30{,}000}{30{,}000} = 1.30$ ;**Project Y :** Profitability Index $= \dfrac{9{,}000 + 36{,}000}{36{,}000} = 1.25$

**QUESTION NO. 1 (b) [6 Marks][Valuation Of Business Question No. 2C Of Aaditya Jain Sir Question Booklet]** A company is presently working with an earning before interest and taxes (EBIT) of Rs. 90 lakhs. Its present borrowings are:

| | (Rs. lakhs) |
|---|---|
| 12% term loan | 300 |
| Working Capital: | |
| Borrowing from Bank at 15% | 200 |
| Public deposit at 11% | 90 |

The sales of the company is growing and to support this the company proposes to obtain additional borrowing of Rs. 100 lakhs expected to cost 16%. The increase in EBIT is expected to be 18%.Calculate the present and revised interest coverage ratio and comment.

**Solution**

**Calculation of Present Interest Coverage Ratio**

Present EBIT = Rs. 90 lakhs

| | |
|---|---|
| Present Interest Charge : | *Rs. in lakhs* |
| Term loan @ 12% | 36 |
| Bank Borrowings @ 15% | 30 |
| Public Deposit @ 11% | 9.9 |
| | 75.9 |

Present Interest Coverage Ratio $= \dfrac{\text{EBIT}}{\text{Interest Charges}} = \dfrac{\text{Rs. 90 lakhs}}{\text{Rs. 75.9 lakhs}} = 1.1858$

**Calculation of Revised Interest Coverage Ratio**

Revised EBIT (118% of Rs. 90 lakhs) = 106.2 lakhs

| | | |
|---|---|---|
| Proposed interest charges | | *Rs. in lakhs* |
| Existing charges | | 75.90 |
| *Add :* Additional charges (16% of additional borrowings i.e. 100 lakhs) | | 16.00 |
| | Total | 91.9 |

Revised interest coverage Ratio $= \dfrac{\text{EBIT}}{\text{Interest Charges}} = \dfrac{\text{Rs. 106.2 lakhs}}{\text{Rs. 91.9 lakhs}} = 1.1556$

**Analysis/Comment :** With the proposed increase in the sales the burden of interest on additional borrowings of Rs. 100 lakhs will adversely affect the interest coverage ratio.Interest Coverage Ratio has been reduced by 2.61% approximately (i.e. from 1.1858 to 1.1556).

**QUESTION No. 2(a)[10 Marks][Merger & Acquisition Question No.5A Of Aaditya Jain Sir Question Booklet]** The following information is provided related to the acquiring Firm Mark Limited and the target Firm Mask Limited:

| | Firm Mark Limited | Firm Mask Limited |
|---|---|---|
| Earning after tax (Rs.) | 2,000 lakhs | 400 lakhs |
| Number of shares outstanding | 200 lakhs | 100 lakhs |
| P/E ratio (times) | 10 | 5 |

**Required:**

**(i)** What is the Swap Ratio based on current market prices?**(ii)** What is the EPS of Mark Limited after acquisition?**(iii)**What is the expected market price per share of Mark Limited after acquisition,assuming P/E ratio is adversely affected by 10%**(iv)** Determine the market value of the merged firm**(v)** Calculate gain/ loss for shareholders of the two independent companies after acquisition.

**Solution :**

| **(i)** Swap Ratio based on Current Market Price : | **Mark** | **Mask** |
|---|---|---|
| Earning After Tax | 2000Lakhs | 400 Lakhs |

| | | |
|---|---|---|
| No. of Equity Shares | 200Lakhs | 100 Lakhs |
| EPS | 10 | 4 |
| P/E Ratio | 10 | 5 |
| MPS | 100 | 20 |

Swap Ratio = $\frac{20}{100} = .2$

**(ii)** $EPS_{A+B} = \frac{(2000+400)L}{200L + 100\,L \times .2} = 10.91$

**(iii)** Expected MPS of Mark Ltd. after acquisition, assuming P/E Ratio of Mark Ltd. remains unchanged :

$MPS_{A+B}$ = P/E $Ratio_{A+B} \times EPS_{A+B}$ = Rs. 10 × 10.91 = Rs. 109.10

**(iv)** Market Value of Merged firm = MPS After Merger × Total No. Of Equity Shares After Merger = Rs. 109.10 × 220 Lakhs = 24002 Lakhs.

**(v) Gain/Loss from Merger :**

| | |
|---|---|
| Post Merger Market Value of the Merged firm = | Rs. 24002 Lakhs. |
| Less : Pre-Merger Market Value : | |
| Mark Ltd : 200 L × 100 = | Rs. 20000 Lakhs. |
| Mask Ltd. 100 L × 20 = 20 Crores = | Rs. 2000 Lakhs. |
| Gain from Merger | Rs. 2002 Lakhs. |

Appropriation of Gains from the merger among shareholders :

| | **Mark Ltd.** | **Mask Ltd.** |
|---|---|---|
| Post Merger Value | 21820 Lakhs. | 2182 Lakhs. |
| | [200 L × 109.10]= | [100 L × .2 × 109.10]= |
| **Loss :** Pre-Merger Market Value | 20000 Lakhs. | 2000 Lakhs. |
| Gain to Shareholders | 1820 Lakhs. | 182 Lakhs. |

**QUESTION NO. 2(b)[10 Marks][Valuation Of Business Question No. 2C Of Aaditya Jain Sir Question Booklet]** In the current year, a corporate firm has reported a profit of Rs. 65 lakh, after paying taxes @ 35 per cent. On close examination, the analyst ascertains that the current year's income includes: (i) extraordinary income of Rs. 10 lakh and (ii) extraordinary loss of Rs. 3 lakh. Apart from existing operations, which are normal in nature and are likely to continue in the future, the company expects to launch a new product in the coming year.

Revenue and cost estimates in respect of the new product are as follows :

| | |
|---|---|
| Sales | Rs. 60 Lakh |
| Material Cost | 15 |
| Labour cost (additional) | 10 |
| Allocated fixed costs | 5 |
| Additional fixed costs | 8 |

**(i)**From the above information compute the value of the business, given that capitalisation rate applicable to such business in the market is 15%.

**(ii)**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 the P/E Ratio being 8 times.

**Solution :**

| | | | |
|---|---|---|---|
| **(i)** Profit before tax [Rs. 65 lakh/(1-0.35)] | | | Rs. 100 lakh |
| Less extraordinary income (not likely to accrue in future) | | | (10) |
| Add extraordinary loss (non-recurring in nature) | | | 3 |
| Add incremental income expected from the launch of the new product: | | | |
| Sales | | Rs. 60 lakh | |
| Less Material costs | Rs. 15 lakh | | |
| Labour costs | 10 | | |
| Fixed costs (additional) | 8 | 33 | 27 |
| Expected profits before taxes | | | 120 |
| Less taxes (0.35) | | | 42 |
| Future Maintainable Profits after taxes | | | 78 |

Relevant capitalisation factor .15

$\therefore$ Value of business = $\dfrac{\text{Profit}}{\text{Relevant Capitalisation Factor}} = \dfrac{78}{.15} = 520$ Lakhs

**Additional Analysis** : Allocated Fixed Costs are irrelevant cost for new product which is being launched by the company.These are costs which are not incurred due to new product exclusively .These cost will be incurred even if new product is not manufactured by the company.But we will consider additional fixed cost which are mainly incurred by the company due to new product.

**(ii)** Given,

| | |
|---|---|
| 11% Preference Share Capital 1,00,000 @ Rs.100 each | 100,00,000 |
| 40,00,000 Equity Share @ Rs.10 each | 400,00,000 |
| | 500,00,000 |

P/E Ratio = 8 $\Rightarrow \dfrac{\text{MPS}}{\text{EPS}} \Rightarrow$ MPS =8 $\times$ EPS.Therefore we have

| | | |
|---|---|---|
| Future Maintanable Profits After Taxes | | 78,00,000 |
| Less: Preference Dividend 11% of Rs.100 Lakhs | | (11,00,000) |
| Profit Available to Equity Shareholder | (A) | 67,00,000 |
| No. of Equity Shares | (B) | 40,00,000 |
| EPS (A/B) | | 1.675 |
| MPS ( 8 x 1.675) | | 13.4 |

**QUESTION NO. 3(a)[14 Marks][Leasing Similar to Question No. 1A Of Aaditya Jain Sir Question Booklet]** 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 it by taking a bank loan @ 15%p.a. repayable in 5 yearly instalments 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 the cases the instalment is payable at the end of the year. Depreciation is to be applied @15% using "Written Down Value"(WDV) method. You are required to advise which of the financing options is to be exercised and why.

| **Year** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| PVF @ 16% | 0.862 | 0.743 | 0.641 | 0.552 | 0.476 |

**Solution :**Given,Discont Rate = 16% ; Tax Rate = 35%; Cost of the Asset = 10,00,000;Interest=15%p.a. ; Year=5year;Yearly Installment = 2,00,000;Lease ; Depreciation=15%p.a WDV Method;Yearly Lease Rental = 3,34,000

**Working Notes 1: Calculation of Depreciation**

| **Year** | **Opening Balance** | **Depreciation@15%** | **Closing Balance** |
|---|---|---|---|
| 1 | 1000000 | 150000 | 850000 |
| 2 | 850000 | 127000 | 722500 |
| 3 | 722500 | 108375 | 614125 |
| 4 | 614125 | 92118.75 | 522006.25 |
| 5 | 522006.25 | 78301 | 443705.25 |

**Working Note 2 : Calculation Of Interest**

| **Year** | **Opening Balance** | **Interest@15%** | **Closing Balance** |
|---|---|---|---|
| 1 | 10,00,000 | 1,50,000 | 8,00,000 |
| 2 | 8,00,000 | 1,20,000 | 6,00,000 |
| 3 | 6,00,000 | 90,000 | 4,00,000 |
| 4 | 4,00,000 | 60,000 | 2,00,000 |
| 5 | 2,00,000 | 30,000 | Nil |

**Note :** Since Salvage Value is not given in question,it has been totally ignored from our calculation.

**Calculation of Present Value of Outflow**

**Under Lease:**

| **Year** | **LeaseRental Net Of Tax** | **PVAF@16%** | **PresentValue** |
|---|---|---|---|
| 1-5 | 3,34,000(1-.35) = 217100 | 3.724 | 710785.4 |
| | | Present Value of Cash Outflow | **710785.4** |

**Under Loan:**

| Year | Installment | Interest Net of Tax | Tax Saving on Depreciation | Total Net Cash Outflow |
|---|---|---|---|---|
| 1 | 2,00,000 | 97,500 | (52,500) | 2,45,000 |
| 2 | 2,00,000 | 78,000 | (44,625) | 2,33,375 |
| 3 | 2,00,000 | 58,500 | (37,931) | 2,20,569 |
| 4 | 2,00,000 | 39,000 | (32,242) | 2,06,758 |
| 5 | 2,00,000 | 19,500 | (27,405) | 1,92,095 |

| Year | Cash Flow | PVF@16% | Present Value |
|---|---|---|---|
| 1 | 2,45,000 | .862 | 2,11,190 |
| 2 | 2,33,375 | .743 | 1,73,398 |
| 3 | 2,20,569 | .641 | 1,41,384 |
| 4 | 2,06,758 | .552 | 1,14,130 |
| 5 | 1,92,095 | .476 | 91,437 |
| Present Value 0f Cash Outflow | | | **7,31,539** |

**Decision:** Sundaram Ltd Company should choose Lease Option.

**QUESTION NO. 3(b)[6 Marks][Covered in Aaditya Jain Sir Theory Book]Explain briefly Capital Rationing?**

➦**Meaning : Capital Rationing** is a situation where a constraint or budget ceiling is placed on the total size of capital expenditures during a particular period.

➦In other words "Capital Rationing refers to a situation where a company cannot undertake all positive NPV projects it has identified because of shortage of capital ".

➦**Reasons For Capital Rationing :**

**External Factors** : Under this the firm does not have funds & it also cannot raise them from finincial markets.Some reasons can be : **(i)** imperfections in capital markets **(ii)** non-availability of market information **(iii)** investor's attitude **(iv)** Firm's lack of credibility in market **(v)** High Flotation costs

**Internal Factors** :Internal capital rationing arise due to the self-imposed restrictions imposed by management .Under this though the funds can be arranged but firm itself impose restrictions on investment expenditure . Some reasons can be :

**(i)** not to take additional burden of debt funds **(ii)** laying down a specified minimum rate of return on each project **(iii)** No further Equity Issue to prevent dilution of control , **(iv)** Divisional Budgets used to prevent any inefficency or wastage of funds by them

➦**Different Situations of Capital Rationing :**

**(i) Single Period Capital Rationing :** Funds limitation is there only for one year. Thereafter , no Financial constraints.

**(ii) Multi Period Capital Rationing :** Funds limitaton is there in more than one years.

**(iii) Divisible Projects :** These are the projects which can be accepted fully as well as in fractions. NPV is also adjusted to the same fraction as cash outflows.

**(iv) Indivisible Projects :**These are the projects which can only be accepted fully, not in fractions.

➦**Ways of Resorting Capital Rationing :** There are various ways of resorting to capital rationing, some of which are :

**(i) By way of Retained Earnings :** A firm may put up a ceiling when it has been financing investment proposals only by way of retained earnings (ploughing back of profits). Since the amount of capital expenditure in that situation cannot exceed the amount of retained earnings, it is said to be an example of capital rationing.

**(ii) By way of Responsibility Accounting :** Capital Rationing may also be introduced by following the concept of 'responsibility accounting', whereby management may introduce capital rationing by authorising a particular department to make investment only upto a specified limit, beyond which the investment decisions are to be taken by higher-ups.

**(iii) By making full utilization of budget as primary consideration :** In Capital Rationing it may also be more desirable to accept several small investment proposals than a few large investment proposals so that there may be full utilisation of budgeted amount. This may result in accepting relatively less profitable investment proposals if full utilisation of budget is a primary consideration. Thus Capital Rationing does not always lead to optimum results.

**QUESTION NO. 4(a)[10 Marks][Options Similar to Question No. 3A/4A/5A/5B Of Aaditya Jain Sir Question Booklet]**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 payoffs to the option holder of a call option and a put option, given that:

**(i)**The strike price in both cases is Rs.220; and**(ii)**The share price on the Exercise day is Rs.200, 210,220,230,240.

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

**Solution :**

Given,Underlying Asset=VCC Ltd Equity Share ;Current Market Price = Rs. 210/-;Maturity Period = 3 month ;Type of Option = Call Option & Put Option ; Premium: Call: Rs.6 per Share Put :Rs.5 per Share ;Strike Price : Rs.220 (Both for Call & Put) Expected Market Price on Expiry: Rs 200, 210, 220, 230, 240.

**(i) Calculation of Net Payoff**

| Actual Market Price on Expiry | Strike Price | Net Profit/Loss for Call | Net Profit/Loss for Put |
|---|---|---|---|
| 200 | 220 | -6 | +15 |
| 210 | 220 | -6 | +5 |
| 220 | 220 | -6 | -5 |
| 230 | 220 | +4 | -5 |
| 240 | 220 | +14 | -5 |

Price Range at which the call and the put options may be gainfully exercised.

**For Call : Breakeven Price for Call:**

AMP = Strike Price + Option Premium = 220 + 6 = Rs. 226.

If Actual Market Price is **higher than 226** then Call Option can be gainfully exercised.

**For Put : Breakeven Price for Put:**

AMP = Strike Price-Option Premium = 220 - 5 = Rs. 215

If Actual market Price is **lower than 215** then Put can be gainfully exercised.

**QUESTION NO. 4(b) [4 Marks][Mutual Fund Question No. 3A Of Aaditya Jain Sir Question Booklet]** A mutual fund that had a net asset value of Rs.16 at the beginning of month made income and capital gain distribution of Re.0.04 and Re.0.03 per share respectively during the month, and then ended the month with a Net Asset Value of Rs.16.08. Calculate monthly and annual return (%).

**Solution :**Monthly Rate of Return = $\frac{(16.08-16)+.04+.03}{16} \times 100 =$ 0.9375%

Annual Rate of Return = 0.9375% $\times$ 12 = 11.25% p.a

**QUESTION NO. 4(c) [6 Marks ][Covered in Aaditya Jain Sir Theory Book] Write a short note on Debt Securitisation?**

➦**Meaning : Securitisation** is a process of pooling and repackaging homogeneous illiquid financial assets into marketable securities that can be sold to investors. Securitisation is the process by which financial assets are transformed into securities .Since through Securitisation , the illiquid financial assets or debtors are converted into Securities , it can also be called as " Debt or Asset Securitisation" .

➦**Process :** For example a bank lends Rs. 10 lakhs each to 300 borrowers as part of its loan portfolio. The total debt thus on the books of the bank will be Rs. 30 crores. By way of securitisation, the bank can break the entire portfolio of loan/debt of Rs. 30 crores into a paper of Rs. 300 each for instance, and market it in the secondary market to investors.

➦Debt Securitisation will thus provide liquidity to the instrument.

➦**Steps involved in a Securitisation Process :**

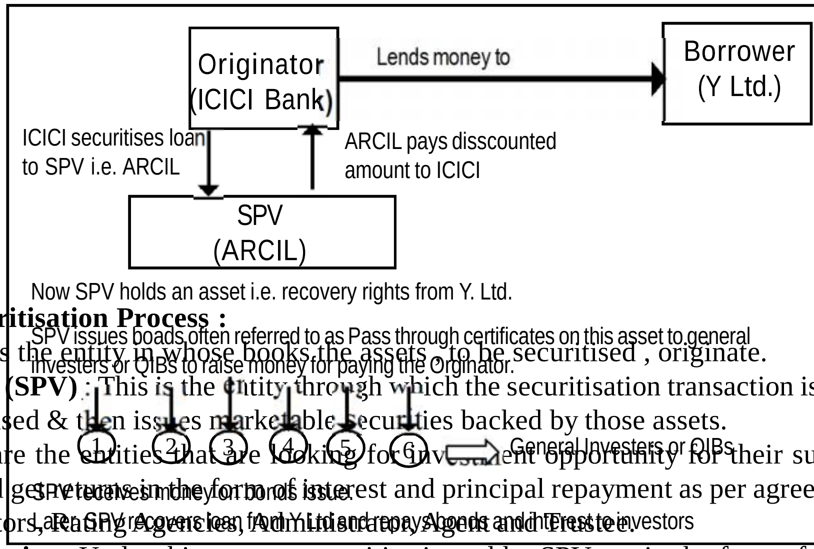
The basic debt securitisation process can be classified in the following three functions.

**(i) The Origination Function** : A borrower seeks a loan from a finance company, bank, housing company or a lease from a leasing company. The creditworthiness of the borrower is evaluated and a contract is entered into with repayment schedule structured over the life of the loan.

**(ii) The Pooling Function** : Similar loans or receivables are clubbed together to create an underlying pool of assets. This pool is transferred in favour of a SPV - (Special Purpose Vehicle), which acts as a trustee for the investor. Once the assets are transferred, they are held in the originators' portfolios.

**(iii) The Securitisation Function** : It is the SPV's job now to structure and issue the securities on the basis of the asset pool. The securities carry a coupon and an expected maturity, which can be asset based or mortgage based. These are generally sold to investors through merchant bankers. The investors interested in this type of securities are generally institutional investors like mutual funds, insurance companies etc. The originator usually keeps the spread available (i.e.difference) between yield from secured assets and interest paid to investors.

The digrame bellow illustrates the process of Scuritisation in India




**➦Parties involved in Securitisation Process :**

**(i) The Originator** : This is the entity in whose books the assets , to be securitised , originate.

**(ii) Special Pupose Vehicle (SPV)** : This is the entity through which the securitisation transaction is actually operated i.e who buys the assets to be securitised & then issues marketable securities backed by those assets.

**(iii) The Investor** : These are the entities that are looking for investment opportunity for their surplus funds.They buy the securities issued by SPV and get returns in the form of interest and principal repayment as per agreed schedule.

**(iv) Other Parties :** Obligators, Rating Agencies, Administrator/Agent and Trustee.

**➦Instruments of Securitisation :**Under this process securities issued by SPV are in the form of Pass Through Certificate (PTC), Pay Through Securities (PTS) and Stripped Securities. Securities may be Asset Backed Securities and Mortgaged Backed Securities .

**(i)** Asset Backed Securities **:** These are securities backed by other assets like credit card receivable , trade receivables etc .

**(ii)** Mortgage Backed Securities **:**These are the securities where the assets collaterised are mortgage loans i.e loans secured by a mortgage of specified immovable property .

**➦Benefits to the Originator** :

**1.** The assets are shifted off the balance sheet, thus giving the originator recourse to off balance sheet funding.

**2.** It converts illiquid assets to liquid portfolio.

**3.** It facilitates better balance sheet management as assets are transferred off balance sheet facilitating satisfaction of capital adequacy norms.

**4.** The originator's credit rating enhances.

**➦Benefits to the Investor** :

**1.** For the investor securitisation opens up new investment avenues.

**2.** Though the investor bears the credit risk, the securities are tied up to definite assets.

**3.** Securitisation helps to convert a stream of cash receivables into a source of long-term finance.

**4.** Securities are rated by Credit Rating Agencies and it becomes easier for an investor to compare risk return profile and make an informed choice.

**➦Recent Scenario :** In Indian context Debt Securitisation has began to take off. The ideal candidates for this are hire purchase and leasing companies, asset finance and real estate finance companies.The first securitisation deal was structured by Citibank in 1991.National Housing Bank,Housing and Urban Development Corporation,LIC Housing and HDFC have emerged as key players in the securitisation market .The experiment has already been initiated in India by the Housing Development Finance Corporation (HDFC) by selling a part of its loan to the Infrastructure Leasing and Financial Services Ltd. (ILFS) and has therefore become a pacesetter for other kinds of debt securitisation as well.The Industrial Credit and Investment Corporation of India (ICICI) as well as other private financial companies have been trying similar deals for lease rentals.

**QUESTION NO. 5(a)[6 Marks][Foreign exchange Similar to Question No. 2B Of Aaditya Jain Sir Question Booklet]**

The following two way quotes appear in the Foreign Exchange Market:

| | **Spot** | **2-Months Forward** |
|---|---|---|
| Rs/US$ | Rs.46.00/Rs.46.25 | Rs.47.00/Rs.47.50 |

**Required:**

**(i)**How many US dollars should a firm sell to get Rs.25 lakhs after 2 months?

**(ii)** How many Rupees is the firm required to pay to obtain US$ 2, 00,000 in the Spot Market?
**(iii)** Assume the firm has US $ 69,000 in current Account earning no interest.ROI on Rupee Investment is 10% p.a. Should the firm encash the US $ now or two months later?

**Solution :**
Given, Spot Rate: 1US$ =Rs.46 – Rs.46.25 ; 2 Month Forward 1US$=Rs.47 – Rs.47.50

**(i)** For getting Rs.25,00,000 after 2 month the required Dollar a Firm should sell = $25{,}00{,}000 \times \frac{1}{47.00}$ = $ 53191.48936

$\left[\text{Hint}: 1\,\text{Re} = \$\frac{1}{47.50} - \$\frac{1}{47.00}\right]$

**(ii)** For obtaining US$ 2,00,000 in the Spot Market, the required Rupee the firm is required to pay = 2,00,000 $\times$ 46.25 =Rs.92,50,000.
**(iii) If the firm encash US $ now:**

Amount of Rupee received now with US$ 69,000 = 69,000 $\times$ 46 = $3174000 + 3174000 \times \frac{2}{12} \times \frac{10}{100}$ = Rs.31,74,000.

After 2 month this amount will grow @ 10% p.a. and hence will become = Rs.32,26,900
**If the firm encash US$ 2 months later**
Amount of Rupee Received after 2 month with US$ 69,000= 69000 $\times$ 47=Rs.32,43,000.
**Decision:** The Firm should encash US$ 69000 2months later.

**QUESTION NO. 5(b)[10 Marks][Capital Budgeting Question No. 2E Of Aaditya Jain Sir Question Booklet]** A & Co. is contemplating whether to replace an existing machine or to spend money on overhauling it. A & Co. currently pays no taxes. The replacement machine costs Rs. 90,000 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. 20,000 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 A & Co. is 15%. **Required:** When should the company replace the machine?
(Notes: Present value of an annuity of Re. 1 per period for 8 years at interest rate of 15% : 4.4873; present value of Re. 1 to be received after 8 years at interest rate of 15% : 0.3269).

**Solution** **A & Co."Equivalent Annual Cost of (EAC) of New Machine"**

| | Rs. |
|---|---|
| Cost of New Machine Now | 90,000 |
| Add : Present Value of Annual Repairs @ Rs. 10,000 per annum for 8 years (Rs. 10,000 $\times$ 4.4873) | 44,873 |
| | 1,34,873 |
| Less : Present Value of Salvage Value at the end of 8 years(Rs. 20,000 $\times$ 0.3269) | _(6,538) |
| NPV Of Outflows for New Machine | 1,28,335 |

Equivalent Annual Cost (EAC) $\frac{\text{Net Present Value}}{\text{PVAF}(15\%, 8\text{ Years})} = \frac{128335}{4.4873} = 28{,}600$

**Option 1 : Replace Existing Machine Now**

| Year | Particulars | Cash Flow | PVF @ 15% | Present Value |
|---|---|---|---|---|
| 0 | Salvage value | 40,000 | 1 | 40,000 |
| 1-4 | Equalized Annual cost | (28,600) | 2.8550 | (81,653) |
| | | | NPV | (41,653) |

**Option 2 : Replace Existing Machine at the End of Year 1.**

| Year | Particulars | Cash Flow | PVF @ 15% | Present Value |
|---|---|---|---|---|
| 1 | Repairs & Maintenance | (10,000) | 0.8696 | (8696) |

| | | | | |
|---|---|---|---|---|
| 1 | Salvage Value | 25,000 | 0.8696 | 21740 |
| 2-4 | Equalized Annual Cost | (28,600) | 1.9854 | (56782) |
| | | | NPV | (43735) |

**Option 3 : Replace existing Machine at end of Year 2.**

| Year | Particulars | Cash Flow | PVF @ 15% | Present Value |
|---|---|---|---|---|
| 1 | Repairs & Maintenance | (10,000) | 0.8696 | (8696) |
| 2 | Repairs & Maintenance | (20,000) | 0.7561 | (15122) |
| 2 | Salvage Value | 15,000 | 0.7561 | 11342 |
| 3-4 | Equilized Annual cost | (28,600) | 1.2293 | (35155) |
| | | | NPV | (47634) |

**Option : 4 Replace the Machine at the end of Year 3.**

| Year | Particulars | Cash Flow | PVF @ 15% | Present Value |
|---|---|---|---|---|
| 1 | Repair and Maintenance | (10,000) | 0.8696 | (8696) |
| 2 | Repair and Maintenance | (20,000) | 0.7561 | (15122) |
| 3 | Repair and Maintenance | (30,000) | 0.6575 | (19725) |
| 3 | Salvage Value | 10,000 | 0.6575 | 6575 |
| 4 | Equilized Annual Cost | (28,600) | 0.5718 | (16353) |
| | | NPV | | (52292) |

**Option : 5 Replace the Machine at the end of Year 4.**

| Year | Particulars | Cash Flow | PVF @ 15% | Present Value |
|---|---|---|---|---|
| 1 | Repair and Maintenance | (10,000) | 0.8696 | (8696) |
| 2 | Repair and Maintenance | (20,000) | 0.7561 | (15122) |
| 3 | Repair and Maintenance | (30,000) | 0.6575 | (19725) |
| 4 | Repair and Maintenance | (40,000) | 0.5718 | (22872) |
| | | NPV | | (66415) |

**Advice :** The company should replace the old machine immediately and realize its Salvage Value because its Present Value of Cash Outflow is lower in case when Company is replacing its existing Machine now i.e in Year 0

**QUESTION NO. 5(c)[4 Marks][Covered in Aaditya Jain Sir Class Register]**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.

Two reasons, why companies should declare dividend and not ignore it are as follows :

➦**(i)** High dividend payout is important for investors because dividends provide certainty about the company's financial well-being; Dividends are also attractive for investors looking to secure current income.Generally speaking, the fact that a company can afford to pay a dividend is viewed as a sign of economic health.

➦**(ii)** In addition, there are many examples of how the decrease and increase of a dividend distribution can affect the price of a security. Companies that have a long-standing history of stable dividend payouts would be negatively affected by lowering or omitting dividend distributions; these companies would be positively affected by increasing dividend payouts or making additional payouts of the same dividends. Furthermore, companies without a dividend history are generally viewed favorably when they declare new dividends.

In today's investment environment, where there are only relatively modest capital gains expectations for stocks and low interest rates, dividends can have a significant impact on investment returns.

**QUESTION NO. 6(a)[6 Marks][Covered in Aaditya Jain Sir Theory Book] What is the Sensitivity Analysis in Capital Budgeting?**

➦**Meaning : Sensitivity Analysis** enables managers to assess how responsive the NPV is to changes in the variables which are used to calculate it.

➦**Steps :** Sensitivity Analysis involves three steps

**(i)** Identification of all those variables having an influence on the project's NPV or IRR.

**(ii)** Definition of the underlying quantitative relationship among the variables.

**(iii)** Analysis of the impact of the changes in each of the variables on the NPV of the project.

➦Sensitivity Analysis answers questions like,
**(i)** What happens to the present value (or some other criterion of merit) if flows are, say Rs. 50,000 than the expected Rs. 80,000?
**(ii)** What will happen to NPV if the economic life of the project is only 3 years rather than expected 5 years?
➦**Importance :** It directs the management to pay maximum attention towards the factor where minimum percentage of adverse change causes maximum adverse effect.
➦**Only a tool :** However, it should not be viewed as the method to remove the risk or uncertainty, it is only a tool to analyse and measure the risk and uncertainty.
➦**Assumptions :** In terms of capital budgeting the possible cash flows are based on three assumptions:
**(a)** Cash flows may be worst (pessimistic) **(b)** Cash flows may be most likely **(c)** Cash flows may be most optimistic.
➦**Computation** : Sensitivity of a variable is calculated by using following relation : Sensitivity (%) = Change/Base x 100
➦**Decision :** If NPV were to become 0 with 2% change in fixed costs relative to 10% change in sales, project is said to be more sensitive to fixed costs than to sales. This is because a small change in fixed costs leads to a reversal of investment decision.
➦**Limitations**:**(i)** Sensitivity Analysis assumes variables to be completely unrelated / independent to each other, which is generally not the case .**(ii)** There is no clear roadmap to indicate how the decision-maker will use results of the sensitivity analysis .
➦In Sensitivity Analysis Finance Manager seeks answer to "What if" Situations.
➦Some parameters to be used under Sensitivity Analysis are Size of the project, Cash flows, Life of the project, Discount Rate.
➦Under this analysis each input variable (parameters) is considered separately and all other variables are held constant.
➦Hence wherever there is an uncertainty, of whatever type, the sensitivity analysis plays a crucial role.

**QUESTION NO. 6(b)[4 Marks][Miscellaneous Question No. 4B Of Aaditya Jain Sir Question Booklet]**Z co.Ltd. issued commercial paper worth Rs.10 crores as per following details:

| | |
|---|---|
| Date of Issue: | 16th January, 2009 |
| Date of Maturity: | 17th April, 2009 |
| No. Of days: | 91 |
| Interest Rate | 12.04%p.a. |

What was the net amount received by the company on the issue of CP? (Charges of the intermediary may be ignored)

**Solution :**Let the amount received by the company on issue of Commercial Paper be X.Therefore we have

$$x + x \times \frac{12.04}{100} \times \frac{91}{365} = 100,00,000 \Rightarrow 1.030017534x = 100,00,000 \Rightarrow x = Rs.9708572.592$$

**QUESTION NO. 6(c)[5 Marks][Covered in Aaditya Jain Sir Theory Book]What are the advantages of investing in Mutual Fund?**

The major advantages of investing in Mutual Fund are discussed below:
**1. Professional Management** One of the major advantage of the mutual fund is the availability of low cost highly professional and skilled management services. The managers have sound knowledge and wide experience in investment.
**2. Low Cost High Value Portfolio Diversification** Market related risk can be reduced by diversification of portfolio. For a small investor appropriate portfolio diversification is not possible due to shortage of minimum required funds. But with investments in mutual funds, portfolio of even a small investor gets automatically diversified.
**3. Reduction/Diversification of Risk** When a investor, invest in a mutual fund he is actually investing in a pool of funds. These funds will in turn be invested in securities. So the individual investor will share the losses with others investors.
**4. Reduction in Transaction Cost** A mutual fund can offer economies of search & verification due to size & scale of operations.
**5. Liquidity** Mutual fund invests in a number of securities but not all the securities are easily sellable. When a investor invests in a mutual fund, he can sell his units any time to the fund, in case of open ended schemes or cash his investment by selling in secondary market, in case of close ended schemes, thus mutual fund investments are quite liquid.
**6. Tax Benefits** There are many tax benefits available under Income Tax Act 1961 for investing in Mutual Fund Schemes.
**7. 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 .
**8. 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.

**9. Return Potential :** MF has the potential to provide a higher return as they invest in a diversified basket of selected securities.

**QUESTION NO. 6(d)[5 Marks] [Covered in Aaditya Jain Sir Theory Book]**Write a brief note on Small Industries Development Bank Of India ?

**SMALL INDUSTRIES DEVELOPMENT BANK OF INDIA**
**Premium Financial Institute in India**

➦The SIDBI was established on April 02, 1990 by Government of India, as a wholly owned subsidiary of IDBI. It was delinked from IDBI w.e.f. March 27, 2000. SIDBI is headed by the Chairman & Managing Director. The SIDBI is operating different programmes and schemes through 5 Regional Offices and 33 Branch Offices.

➦Small Industries Development Bank of India (SIOBI) is governmental organization whose objective is to assist the development of small industries.

➦It is a institution which is engaged in refinancing activities; it funds a few schemes intended for SSls through scheduled/ nationalized banks.

➦During the year 2002-03, the aggregate sanctions and disbursements of SIDBI amounted to Rs.10904 crore and Rs.6789 crore respectively.

➦**Channels of Assistance :**SIDBI’s financial assistance to small scale sector has three major dimensions :

**(i) Direct assistance :** The objective behind SIDBI’s direct assistance schemes has been to supplementthe efforts of PLIs by identifying the gaps in the existing credit delivery mechanism for SSIs.Assistance is provided directly through 43 branches of SIDBI. The assistance is extended directly for setting up of new SSI units, small hotels, hospitals/nursing homes, technology upgradation andmodernisation, expansion and diversification, marketing of SSI products, setting up of multiplexes,development of infrastructure for the SSI sector, discounting of bills etc.

**(ii) Indirect assistance :** SIDBI’s schemes of indirect assistance envisage credit to SSIs through a largenetwork of 913 PLIs SIDBI has bagged the prestigious “ADFIAP Development Award 2003” for its RuralIndustries Programme designed to give impetus to rural development by creating sustainable industrialand service enterprises in rural areas. spread across the country with a branch network of over 65,000.The assistance is provided by way of refinance, bills rediscounting and resource support in the form ofshort term loans/line of credit in lieu of refinance etc.

**(iii) Development and Support Services :** SIDBI extends development and support services in the form ofloans and grants to different agencies working for the promotion and development of SSIs and tinyindustries. The support is given for enterprise promotion with emphasis on rural industrialisation,HRD development in the SSI sector, technology upgradation, quality and environment management,marketing promotion, information dissemination etc.

➦SIDBI has bagged the prestigious “**ADFIAP Development Award 2003**” for its Rural Industries Programme designed to give impetus to rural development by creating sustainable industrial and service enterprises in rural areas.

➦**Subsidiaries Of SIDBI :**SIDBI Venture Capital Ltd. [SVCL] & SIDBI Trustee Co.Ltd. [STCL]

➦**Associate Organisations :**Credit Guarantee Fund Trust Scheme for Small Industries [CGTSI] & Technology Bureau for Small Enterprises [TBSE]

➦**Head Office:**MUMBAI:Nariman Bhavan,227,Vinay K. Shah Marg,Nariman Point,Mumbai - 400 021 Website : www.sidbi.com

➦**Achievements :**SIDBI retained its position in the top 30 Development Banks of the World in the latest ranking of The Banker, London. As per the May 2001 issue of The Banker, London, SIDBI ranked 25th both in terms of Capital and Assets.

➦**Technology Oriented :**SIDBI is also using softwares like CART to assess and rate borrowers and firms and for fixing loan rate.

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**May 2008 : 32 Marks..........Nov 2008 : MAFA-30 Marks;SFM-28Marks**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Nov 2007 | 20 | May 2007 | 24 | Nov 2000 | 34 | May 2000 | 28 |
| Nov 2006 | 28 | May 2006 | 36 | Nov 1999 | 37 | May 1999 | 31 |
| Nov 2005 | 27 | May 2005 | 26 | Nov 1998 | 27 | May 1998 | 30 |
| Nov 2004 | 40 | May 2004 | 38 | Nov 1997 | 26 | May 1997 | 49 |
| Nov 2003 | 46 | May 2003 | 38 | Nov 1996 | 50 | May 1996 | 36 |
| Nov 2002 | 48 | May 2002 | 36 | Nov 1995 | 40 | May 1995 | 35 |

**JUNE 2009 32 Marks** **Nov 2001 20** **May 2001 38** **JUNE 2009 32 Marks**

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**Thank You Sir.The MAFA paper was from ur mat only.Regards Manish Gupta**

**Thank u Aaditya Sir for ur notes on MAFA,especially the theory notes.-Harish K. Chanani [From Kolkata]**

**Sir maja aa gaya paper de kar.Karan Ghai [From Delhi]**

**Monday, 8 June, 2009 3:28 PM**
**From: "Rajeev Nagpal" <rajeev@investbank.ae>**
**To: ca_kumaraaditya@yahoo.co.in**
**Hello Aaditya Sir,**
**I came across your book and I must complement you on writing an excellent book. I have never seen such a simple and excellent presentation of any subject by any one. I am badly stuck up in Group-I of C.A. (Final). I wish I could get your complete notes. I am sure it will prove to be extremely helpful.**
***Regards,Rajeev Nagpal,Assistant Financial Controller,Head Office Finance Control Department,Invest Bank,Sharjah,U.A.E. Tel : 06- 5694440 Ext. 350;Mob : 050-4996818;Fax :06-5681174***

**Wednesday, June 3, 2009 12:20 PM**
**From: "Ashish Singla" <ashishsinglaca@gmail.com>**
**To: cafinalmafa@yahoo.com**
**Dear Mr. Aaditya Jain,**
**I owe it to you, that today, I can heave a sigh of relief after my MAFA Exam. I happened to read only your Suggested Compilation for June 2009 exam during my revision time. And, Im not regretting it one bit. I dont know how you did it, but so many questions came from your compilation (Which was obviously advantageous to me). Thanks a lot for putting in such a diligent effort to compile the same.**
**Regards, Ashish**
**P.S - I think there is not much chance that this mail shall come before your eyes because Im sending to a general id of yours BUT I believe youve made me one of your die hard word of mouth advertisers.**

**Sir i have attempted all the question and I am sure to achieve more than 90% marks in MAFA.Sir you are definitely the Best FM Faculty Of India.Abhishek Kapuria [ Delhi Student ]**

**From the Desk Of Surbhi Agarwal-All India Rank 1**

**I am excited and feeling great today…I must say that hard work and dedication is the path to success.. I take this opportunity to thank my family, friends and of course my Teachers whose guidance and support has always been with me.."I suggest the students to study the subjects not with the intention to mug up things but to gain knowledge. Given that we have eight subjects you cannot cram all of them so the best way out is to understand, comprehend and revise it again and again so that it settles deep into your sub-conscious mind."I will further like to thank Aaditya Sir to make my MAFA conceptually clear.Finally Delhi has got a good MAFA teacher.His notes are really excellent and updated .*-Surbhi Aggarwal Rank Holder 1 in Nov 2008***

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***........From The Desk Of Aaditya Jain***

**[mafabycaaadityajain] hello friends**
Friday, 10 April, 2009 5:46 PM
From: "Sweta Kothari" <swetakothari@ymail.com>
To: mafabycaaadityajain@yahoogroups.com
I stay in Kolkata..I am appearing my CA finals in this June.. I have previously taken tutions for MAFA from a teacher..
Though he was good but i was always scared of MAFA..By taking classes by Aaditya Jain Sir, now i am feeling very good & comfortable in MAFA even though i am not his regular student..He makes us understand the concepts in a very easy manner.. I just want to thank sir for removing my fear for MAFA..Before taking classes from sir used i just target 45-50 in MAFA.. But now i am targeting much more.. Thank you sir.. Thank you so much.. Regards.. Sweta Kothari Kolkata

**THANKS FOR YOUR THEORY BOOK**
Wednesday, 25 February, 2009 8:49 PM
From: "Priyanka Agarwal" <priyans26186@gmail.com>
To: ca_kumaraaditya@yahoo.co.in
This is Priyanka Agarwal from Kolkata.I have purchased ur theory book from Jayesh Sir and is extremely benefitted by it.Now I regret that why havenot I joined u.Actually when I did my MAFA classes I even didnot know your name.Your theory book is just marvellous.No doubt I am getting immense knowledge from it but one more thing is there which I got from your book.The Confidence,most important thing for gaining courage and facing the exams.I would definitely ask all my friends to join your classes.I have heard that your classes are really awesome.I would like to request you that please give some of your valuable suggestions to me for passing the exams in all the subjects. A very heartful thanks to you for publishing such a nice book.

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