

## **PAPER – 14: Advanced Financial Management**

# MTP\_Final\_Syllabus 2012\_Jun2016\_Set 1

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## Paper – 14 : Advanced Financial Management

Time Allowed: 3 Hours

Full Marks: 100

### Section A

Answer Question No. 1 which is compulsory Carried 20 Marks.

1. (A) Each Question Carried 2 Marks:

[7×2 =14]

- (i) XYZ & Co. has 20,000 equity shares of Rs 10 each fully paid. The current market price per share is Rs 20. Earnings available to the shareholders at the end of the period under consideration are ₹60,000. Calculate cost of equity share capital using Earnings/Price ratio
- (ii) The standard deviation of Greaves Ltd. stock is 24% and its correlation coefficient with market portfolio is 0.5. The expected return on the market is 16% with the standard deviation of 20%. Then what is the Beta ( $\beta$ ) of Greaves Ltd?
- (iii) Mr. Khan purchased 300 units of a MUTUAL FUND at a price of Rs 25 per unit at the beginning of the year. He paid a front-end load of 5%. The expense ratio of the fund is 2%. The growth rate in fund's security is 15% during the year. What is the rate of Return of the fund if security sold at the end of the year?
- (iv) Suppose that 1 French Franc could be purchased in the Foreign Exchange Market for 20 US cents today. If the Franc appreciated by 10% tomorrow against the dollar, how many Francs would a Dollar buy tomorrow?
- (v) Company X wants to Borrow sum of ₹20 Lakhs carrying interest of 10% per annum, repayable in 5 yearly installments at the end of each year to purchase a machine. Then what is the Installment Amount to be payable at end of each year?
- (vi) The price of Swedish Kronas is \$0.14 today. If it appreciates by 10% today, how many Kronas a dollar will buy tomorrow?
- (vii) Calculate the future value of ₹1,000 invested in State Bank Cash Certificate scheme for 2 years @5.5% p.a., compounded semi- annually

(B) State if each of the following sentences is T (=true) or F (= false), Each Question carries 1 Mark [6 × 1=6]

- (i) Corporate tax rate does not affect cost of debt
- (ii) Low financial leverage indicates high financial risk and vice – versa
- (iii) An investor expecting a fall in interest rates buys a floor and also a cap
- (iv) A call option is 'in-the money' when the price of the underlying asset is below the exercise price of the call
- (v) An acquisition of a business by using equity fund and a small amount of debt is known as leveraged buy out
- (vi) Global Depository Receipts are issued to investors in India, who want to subscribe to shares of foreign companies

### Section B

Answer any 5 Question from the following. Each Question Carried 16 Marks.

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2. (a) Nine Gems Ltd. has just installed Machine – R at a cost of ₹2,00,000. The machine has a five-year life with no residual value. The annual volume of production is estimated at 1,50,000 units, which can be sold at ₹6 per unit. Annual operating costs are estimated at ₹ 2,00,000 (excluding depreciation) at this output level. Fixed costs are estimated at ₹3 per unit for the same level of production.

Nine Gems Ltd. has just come across another model called Machine – S capable of giving the same output at an annual operating cost of ₹1,80,000 (exclusive of depreciation). There will be no change in fixed costs. Capital cost of this machine is ₹2,50,00 and the estimated life is for five years with nil residual value. The company has an offer for sale of Machine – R at ₹1,00,000. But the cost of dismantling and removal will amount to ₹ 30,000. As the company has not yet commenced operations, it wants to sell Machine – R and purchase Machine – S. Nine Gems Ltd. will be a zero – Tax Company for seven years in view of several incentives and allowances available.

The cost of capital may be assumed at 15%. P.V. Factors for five years are as follows:

Year	P.V Factors
1	0.8696
2	0.7561
3	0.6575
4	0.5717
5	0.4972

- (i) Advise whether the company should opt for the replacement.  
 (ii) Will there be any change in your view, if Machine – R has not been installed but the company is in the process of selecting one of the other machines? Support your view with necessary workings. [10]

- (b) A company is considering two mutually exclusive projects X and Y. Project X costs ₹ 3,00,000 and Project Y ₹ 3,60,000. You have been given below the net present value, probability distribution for each project:

Project X		Project Y	
NPV Estimate (₹)	Probability	NPV Estimate (₹)	Probability
30,000	0.1	30,000	0.2
60,000	0.4	60,000	0.3
1,20,000	0.4	1,20,000	0.3
1,50,000	0.1	1,50,000	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 riskier and why? [6]

3. (a) Mr. Tempest has the following portfolio of four shares:

Name	Beta	Investment Rs Lac
Oxy Rin Ltd.	0.45	0.80
Boxed Ltd.	0.35	1.50
Square Ltd.	1.15	2.25
Ellipse Ltd.	1.85	4.50

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The risk free rate of return is 7% and the market rate of return is 14%

Required:

- (i) Determine the portfolio return
- (ii) Calculate the portfolio Beta

[8]

- (b) A multinational company has paid out 75 per cent of its earnings as dividend in the current period. The company's present Return On Equity (ROE) is 30%, and it expects to maintain both ROE and dividend payout ratio in the long run.

The company's share is currently trading at ₹150. Do you think that the share is overvalued? Give reasons. You may further consider the following information:

Current EPS	₹ 10
Share Beta	0.75
Risk-free Rate	6%
Market Premium	8%

[8]

4. (a)

BSE Index	5000
Value of portfolio	₹10,10,000
Risk free interest rate	9% p.a.
Dividend yield on Index	6% p.a.
Beta of portfolio	1.5

We assume that a future contract on the BSE index with four months maturity is used to hedge the value of portfolio over next three months. One future contract is for delivery of 50 times the index.

Based on the above information calculate:

- (i) Price of future contract.
- (ii) The gain on short futures position if index turns out to be 4,500 in three months

[8]

- (b) Following information about XYZ company's shares and call options is available:

Current share price, (Spot)	₹ 165
Option exercise price	₹ 150
Risk-free interest rate	6%
Time to option expiry	2 years
Volatility of share price (Standard deviation)	15%

Calculate value of the Call option as per the Black-Scholes model.

[8]

5. (a) Equi-Stable, is a portfolio model where in 20% of Fund Value is invested in Fixed Income Bearing Instruments. The balance of 80% is divided among Old Industry Stock (Iron and Steel), Automotive Industry Stock, information Technology Stocks, infrastructure company stocks and financial services sector in the ratio of 4:2:6:3:5.

Three mutual funds X, Y and Z, offer a Fund Scheme based on the Equi-stable Portfolio Model. The actual return on Equi-Stable portfolios of each of the three funds for the past 3 years is as follows:

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Year	1	2	3
Portfolio X	17.35%	18.70%	21.60%
Portfolio Y	17.20%	18.25%	22.15%
Portfolio Z	17.10%	18.60%	22.00%

Beta factor of the Equi-Stable portfolio is measured at 1.35. Return on Market Portfolio indicate that ₹ 1000 invested will fetch ₹ 153 in an year (including capital appreciation and dividend yield). RBI Bonds, guaranteed by the Central Government yields 4.50%.

Rate the fund managers of X,Y and Z. [10]

5. (b) A Laptop Bag is priced at \$105.00 at New York. The same bag is priced at Rs 4,250 in Mumbai. Determine Exchange Rate in Mumbai.
- (i) If over the next one year, price of the bag increases by 7% in Mumbai and by 4% in New York, determine the price of the bag at Mumbai and New York? Also determine the Exchange rate prevailing at New York for ₹100.
- (ii) Determine the appreciation or depreciation in Re. in one year from now. [6]
6. (a) Mr. Arun on 1.7.2009, during the initial offer of some Mutual Fund invested in 10,000 units having face value of ₹10 for each unit. On 31.3.2010 the dividend operated by the M.F. was 10% and Mr. Arun found that his annualized yield was 153.33%. On 31.12.2011, 20% dividend was given. On 31.3.2012 Mr. Arun redeemed all his balance of 11,296.11 units when his annualized yield was 73.52%. What are the NAVs as on 31.3.2010, 31.12.2011 and 31.3.2012. [8]

(b) The following particulars furnished about three Mutual Fund Schemes P, Q and R.

Particular	Scheme P	Scheme Q	Scheme R
Dividend Distributed	₹ 1.75	--	₹ 1.30
Capital Appreciation	₹ 2.97	₹ 3.53	₹ 1.99
Opening NAV	₹ 32.00	₹ 27.15	₹ 23.50
Beta	1.46	1.10	1.40

Ascertain the Alpha of the three schemes and evaluate their performance, if Government of India Bonds carry an interest rate of 6.84% and the NIFTY has increased by 12.13%. [8]

7. (a) The following table gives an analyst's expected return on two stocks for particular market returns:

Market Return	Aggressive Stock	Defensive Stock
5%	-5%	7%
26%	40%	22%

- (i) What are the betas of the two stocks?
- (ii) What is the expected return on each stock if the market return is equally likely to be 5% and 26%?
- (iii) If the risk free rate is 8% what is the SML?
- (iv) What are the alphas of the two stocks? [8]

(b) What are the regulatory measures taken by Forward Market Commission in order to promote the trading in commodities? [8]

8. Write a short note on any four of the following
- (a) Forward VS Future
  - (b) Money Market Mutual Funds
  - (c) Green Shoe Option
  - (d) Capital Market Line VS Security Market Line
  - (e) Capital Rationing

**[4 × 4 =16]**