

**Paper – 14 – ADVANCED FINANCIAL MANAGEMENT**

## MTP\_Final\_Syllabus2012\_Dec2015\_Set 2

The following table lists the learning objectives and the verbs that appear in the syllabus learning aims and examination questions:

	<b>Learning objectives</b>	<b>Verbs used</b>	<b>Definition</b>
<b>LEVEL C</b>	KNOWLEDGE  What you are expected to know	List	Make a list of
		State	Express, fully or clearly, the details/facts
		Define	Give the exact meaning of
	COMPREHENSION  What you are expected to understand	Describe	Communicate the key features of
		Distinguish	Highlight the differences between
		Explain	Make clear or intelligible/ state the meaning or purpose of
		Identify	Recognize, establish or select after consideration
		Illustrate	Use an example to describe or explain something
	APPLICATION  How you are expected to apply your knowledge	Apply	Put to practical use
		Calculate	Ascertain or reckon mathematically
		Demonstrate	Prove with certainty or exhibit by practical means
		Prepare	Make or get ready for use
		Reconcile	Make or prove consistent/ compatible
		Solve	Find an answer to
		Tabulate	Arrange in a table
	ANALYSIS  How you are expected to analyse the detail of what you have learned	Analyse	Examine in detail the structure of
		Categorise	Place into a defined class or division
		Compare and contrast	Show the similarities and/or differences between
		Construct	Build up or compile
		Priorities	Place in order of priority or sequence for action
		Produce	Create or bring into existence
	SYNTHESIS  How you are expected to utilize the information gathered to reach an optimum conclusion by a process of reasoning	Discuss	Examine in detail my argument
		Interpret	Translate into intelligible or familiar terms
Decide		To solve or conclude	
EVALUATION  How you are expected to use your learning to evaluate, make decisions or recommendations	Advise	Counsel, inform or notify	
	Evaluate	Appraise or asses the value of	
	Recommend	Propose a course of action	

**Paper – 14 – ADVANCED FINANCIAL MANAGEMENT**

Time Allowed: 3 hours

Full Marks: 100

**This paper contains 5 questions. All questions are compulsory, subject to instruction provided against each question. All workings must form part of your answer. Assumptions, if any, must be clearly indicated.**

**Question No. 1 (Answer all questions. Each question carries 2 marks)**

1. (a) The current price of an equity share of ₹ 10 are ₹ 20. The next expected dividend per share is 20%. The dividends are expected to grow at a rate of 5%. Calculate the cost of equity based on dividend growth model. **[2]**

(b) SIDBI came out with an issue of Deep discount Bond. Each bond having a face value of ₹ 1,00,000 was issued at a deep discounted price of ₹ 5,000 with a maturity period of 25 years from the date of allotment. The corporate tax rate applicable is 20%. If the Indexed Cost of acquisition is 6%, calculate the Post-tax Yield to maturity of the bond. **[2]**

(c) The Portfolio composition of Mr. Satendra is given below:

	(Amount in ₹ lakh)
Equity	120
Cash/Cash equivalent	40
Total	160

The beta of Equity portion of the Portfolio is 0.85 and the Current Nifty futures is at 4261.5. The multiple attached to Nifty future is 100. If Mr. Satendra purchases 23 future contracts, find out his portfolio Beta. **[2]**

(d) Excel Exporters are holding an Export Bill in United State Dollor (USD) 1,00,000, due 60 days hence. They are worried about the falling USD value which is currently at ₹ 45.60 per USD. The concerned Export Consignment has been priced on an Exchange rate of ₹ 45.50 per USD. The Firm's Bankers have quoted a 60-day Forward Rate of 45.20.

Calculate-

- (I) Rate of discount quoted by the Bank
- (II) The probable loss of operating profit if the forward sales is agreed to. **[1+1]**

(e) Distinguish between mutual funds and hedge funds. **[2]**

(f) Nishce Ltd. is an all equity financed company. The current market price of the share is ₹ 180. It had just paid a dividend of ₹ 15 per share and expected future growth in dividends is 12%. Currently, it is evaluating a proposal requiring funds of ₹ 20,00,000 with annual inflows of ₹ 10,00,000 for 3 years. Find out the NPV of the proposal if:

- (I) It is financed from retained earnings.

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(ll) It is financed by issuing fresh equity (flotation costs 5%). [1+1]

(g) Distinguish between the primary market and the secondary market. [2]

(h) Mr. A purchased a 3 month Call Option for 100 Shares in XYZ Ltd at a Premium of ₹ 30 per share, with an Exercise Price of ₹ 550. He also purchased a 3 month Put Option for 100 Shares of the same Company at a premium of ₹ 5 per Share with an Exercise Price of ₹ 450. The Market Price of the Share on the date of Mr. A's purchase of Options is ₹ 500. Calculate the Profit or Loss that Mr. A would make assuming that the Market Price falls to ₹ 350 at the end of 3 months. [2]

(i) Novell, which had a market value of equity of ₹ 2 billion and a beta of 1.50, announced that it was acquiring WordPerfect, which had a market value of equity of ₹ 1 billion and a beta of 1.30. Neither firm had any debt in its financial structure at the time of the acquisition. Estimate the beta for Novell after the acquisition, assuming that the entire acquisition was financed with equity. [2]

(j) The buy and sell value of two securities in stock exchange are as under:

Security	Buy Value (₹)	Sell Value (₹)
L	5,00,000	2,00,000
M	3,00,000	7,00,000

Calculate the Gross Exposure Margin. [2]

**Question No. 2.** (Answer **any three** questions. Each question carries **8 marks**)

2. (a) (i) Describe the benefits of future trading. [3]

(ii) You are required to compute the annualized cost of fund to ABC Bank Ltd., Given:

Face Value of CD = ₹ 15 lakhs  
Issue price = ₹ 14,45,000  
Tenure = 5 months  
Stamp duty = 0.25% of face value. [5]

2. (b) (i) State whether Secured debentures can be treated as Public Deposit? If not who regulates them? [2]

(ii) Nomination facility is available to the Depositors of NBFCs. - Justify. [3]

(iii) The following information is available regarding four Mutual Funds.

Fund	Risk Free Rate of Return	Portfolio Return (%)	Portfolio Risk (%)	Portfolio Beta
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Franklin	6	11	10	0.5
Sundram	6	16	20	1.0
ABN	6	21	30	1.5
ASK	6	13	28	0.7

Based on the above information you are required to analyze and comment on the extent of diversification of these funds. **[3]**

2. (c) Evaluate performance of Funds M, N and the Market Portfolio from the following information available for the past six months —

Month (Return %)	Apr	May	Jun	Jul	Aug	Sep
Fund M	3.25	1.50	(1.00)	3.75	1.25	0
Fund N	2.50	(1.25)	0	2.75	2.25	1.25
Market Portfolio	1.00	(0.75)	2.00	1.75	0.25	3.25

The 6 Month Treasury Bills carry an interest rate of 6% p.a. **[8]**

- 2 (d)(i) Describe the key reasons to invest in infrastructure in India. **[4]**

(ii) The following portfolio details of a fund are available:

Stock	Shares	Price (₹)
A	200000	35
B	300000	40
C	400000	20
D	600000	25

The fund has accrued management fees with the portfolio manager totaling ₹30000. There are 40 lakhs shares outstanding. Calculate the NAV of the fund. If the fund is sold with a front end load of 5%, calculate the sale price. **[3+1]**

**Question No. 3.** (Answer **any two** questions. Each question carries **10 marks**)

3. (a)(i) State swaps. Explain its necessity. Also state financial benefits created by swap transactions. **[2+2+1]**

(ii) The following quotes are available.

Spot (\$/Euro)	0.8385/0.8391
3-m swap points	20/30
Spot (\$/Pound)	1.4548/1.4554
3-m swap points	35/25

Find the 3-m (€/£) outright forward rates. **[5]**

**3. (b)(i)** List the benefits of Rolling Settlement. **[4]**

**(ii)** Suppose a dealer Rupam quotes 'All-in-cost' for a generic swap at 8% against six month LIBOR flat. If the notional principal amount of swap is ₹5,00,000,

- (I) Calculate Semi-Annual fixed payment.
- (II) Find the first floating rate payment for (I) above if the six month period from the effective date of swap to the settlement date comprises 183 days and that the corresponding LIBOR was 6% on the effective date of swap.
- (III) In (II) above, if settlement is on 'Net' basis, how much the fixed rate payer would pay to the floating rate payer?

Generic swap is based on 30/360 days basis. **[2+2+2]**

**3. (c) (i)** Following are the details of cash inflows and outflows in foreign currency denominations of Mac Co., an Indian export firm, which have no foreign subsidiaries —

Currency	Inflow	Outflow	Spot rate	Forward rate
US \$	4,00,00,000	2,00,00,000	48.01	48.82
French Franc (F Fr)	2,00,00,000	80,00,000	7.45	8.12
UK £	3,00,00,000	2,00,00,000	75.57	75.98

- (I) Determine the net exposure of each foreign currency in terms of Rupees.
- (II) Are any of the exposure positions off-setting to some extent? **[6+2]**

**(ii)** A sold in June Nifty futures contract for ₹3,60,000 on June 15, For this he had paid an initial margin of ₹34,000 to his broker. Each Nifty futures contract is for the delivery of 200 Nifties. On June 25, the index was closed on 1850. How much profit / loss A has made? **[2]**

**Question No. 4. (Answer any two questions. Each question carries 8 marks)**

**4. (a)(i)** Explain the financial meaning of investment. **[4]**

**(ii)** Let's say you have 2 stocks: I-flex and BFL. Assume that I-flex's average return over the last 5 years has been 20% per year and that of BFL has been 25%. Also assume that the standard deviations of those returns were 30% and 40%, respectively.

- (I) If the correlation coefficient for these two stocks is 0.8, calculate the standard deviation of a portfolio invested 40% in I-flex and 60% in BFL.
- (II) If the correlation coefficient were 0.5 instead, would the portfolio standard deviation be greater than or less than in (I)? Why? **[2+2]**

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4. (b) An investor has two portfolios known to be on minimum variance set for a population of three securities A, B and C having below mentioned weights:

	$W_a$	$W_b$	$W_c$
Portfolio X	0.3	0.4	0.3
Portfolio Y	0.2	0.5	0.3

It is supposed that there are no restrictions on short sales.

- (I) Calculate the weight for each stock for a portfolio constructed by investing ₹5,000 in portfolio X and ₹3,000 in portfolio Y.
- (II) Suppose the investor invests ₹4,000 out of ₹8,000 in security A. How he will allocate the balance between security B and C to ensure that his portfolio is on minimum variance set? **[3+5]**
4. (c)(i) We have been given a strange observation that the return on the stock market has been exactly 1 percent in each of the last eight months. The return on Alfa Laval however exhibited tremendous volatility when the stock in the past months provided returns as follows: 18%, 14%, -16%, -30%, 6%, 12%, 30%, -25%. From this information, estimate the beta of Alfa Laval. **[2]**
- (ii) The historical returns of two securities over the past ten years are given. Calculate the covariance and correlation coefficient of the two securities: **[3+3]**

Years	1	2	3	4	5	6	7	8	9	10
Security 1 (Returns %)	12	8	7	14	16	15	18	20	16	22
Security 2 (Returns %)	20	22	24	18	15	20	24	25	22	20

**Question No. 5.** (Answer **any two** questions. Each question carries **10 marks**)

5. (a)(i) As an executive of a lending institution, what factors should you critically evaluate with respect to a large industrial project, from the perspectives of environmental and economic viability? **[4]**
- (ii) A Production Manager is planning to produce a new product and he wishes to estimate the raw material requirement for that new product. On the basis of usage for a similar product introduced previously, he has developed a frequency distribution of demand in tonnes per day for a two month period. Use this data to simulate the raw material usage requirements for 7 days. Compute also expected value and comment on the result.

Demand Tonnes/day	Frequency No. of days
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10	6
11	18
12	15
13	12
14	6
15	3

Random Number: 27, 13, 80, 10, 54, 60, 49.

**[6]**

- 5. (b)** VEDAVYAS Ltd. is considering two mutually exclusive projects M and project N. The Finance Director thinks that the project with higher NPV should be chosen, whereas the Managing Director thinks that the one with the higher IRR should be undertaken, especially as both projects have the same initial outlay and length of life. The company anticipates a cost of capital of 10% and the net after-tax cash flow of the projects are as follows:

Year	0	1	2	3	4	5
Cash flows (₹)						
Project M	(4,00,000)	70,000	1,60,000	1,80,000	1,50,000	40,000
Project N	(4,00,000)	4,36,000	20,000	20,000	8,000	6,000

You are required to:

- (I) Calculate the NPV and IRR of each project.
- (II) State with reasons, which project you would recommend.
- (III) Explain the inconsistency in the ranking of the two projects.

Present value Table is given:

Year	0	1	2	3	4	5
PVIF at 10%	1.000	0.909	0.826	0.751	0.683	0.621
PVIF at 20%	1.000	0.833	0.694	0.579	0.482	0.402

**[(3+4)+2+1]**

- 5. (c) (i)** XYZ Ltd adopts constant WACC approach and believes that its cost of debt and overall cost of capital is at 9% and 12% respectively. If the ratio of the market value of debt to the market value of equity is 0.8, what rate of return do Equity Shareholders earn? Assume that there are no taxes. **[2]**
- (ii)** Company Z is operating an elderly machine that is expected to produce a net cash inflow of ₹ 40,000 in the coming year and ₹ 40,000 next year. Current salvage value is ₹ 80,000 and next year's value is ₹ 70,000. The machine can be replaced



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now with a new machine, which costs ₹ 1,50,000, but is much more efficient and will provide a cash inflow of ₹ 80,000 a year for 3 years. Company Z wants to know whether it should replace the equipment now or wait a year with the clear understanding that the new machine is the best of the available alternatives and that it in turn be replaced at the optimal point. Ignore tax. Take opportunity cost of capital as 10 per cent. Advise with reasons. **[3+3+2]**