

Paper – 14 – ADVANCED FINANCIAL MANAGEMENT

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

	Learning objectives	Verbs used	Definition
LEVEL C	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) MN Ltd. has earnings before interest and taxes of ₹36 crores. The company has 7% debentures of ₹72 crores. Cost of equity is 12.5%. Ignore taxes. Calculate the overall cost of Capital. [2]

(b) Mr. Khan purchased 300 units of a MUTUAL FUND at a price of ₹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. Calculate the rate of Return of the fund if security sold at the end of the year. [2]

(c) Ms. Susmita, a prospective investor has collected the following information pertaining to two securities A and B:

Particulars	Security A	Security B
Expected Return %	15	18
Standard deviation of Returns %	18	22
Beta	0.90	1.40

Variance of Returns on the market Index is 225 (%)². The correlation coefficient between the returns on securities A and B is 0.75. Find out the Systematic Risk of a portfolio consisting of these two securities in equal proportions. [2]

(d) The current market price of an equity share of THOMAS LTD. is ₹500. Within a period of 3 months, the maximum and minimum price of it is expected to be ₹600 and ₹300 respectively. What should be the value of a 3 months call option under "Risk Neutral" method at the strike rate of ₹550, if the risk free rate of interest be 8% p.a.?
[Given $e^{-0.02} = 1.0202$] [2]

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

(f) MAYANK Ltd. employs 12% as nominal required rate of return to evaluate its new investment projects. In the recent meeting of the Board of Directors, it has been decided to protect the interest of shareholders against purchasing power loss due to inflation. The expected inflation rate in the economy is 5%. Calculate the real discount rate. [2]

(g) State the Banking Financial Institutions. [2]

(h) Ms. Priyanka buys 10,000 shares of RUDSON LTD. at ₹50 and obtains a complete hedge of shorting 400 Niffies, at ₹2,200 each. She closes out her position at the closing price of the

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next day at which point the share of Rudson Ltd. has dropped 2% and the Nifty future has dropped 1.5%. Calculate the overall Profit/(Loss) of this set of transactions. [2]

(i) List the advantages of Book Value Weights. [2]

(j) 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]

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

2. (a) (i) Mr. S. K. Sinha had purchased 500 units of a scheme of Temple MF at the rate of ₹ 60 per unit. He held the units for 2 years and got a dividend of 15% and 20% in the first year, and second year respectively on the face value of ₹ 10 per unit. At the end of the second year, the units are sold at the rate of ₹ 75 per unit. Determine the effective rate of return per year which Mr. Sinha has earned on this MF scheme. [5]
2. (a) (ii) List the objectives of the takeout finance scheme. [3]
2. (b) (i) State the Trade Credit. Explain the advantages of trade credit. [2+3]
2. (b) (ii) Distinguish between Merchant Banks and Development Banks. [3]
2. (c) The annualized yield is 3% for 91-day commercial paper and 3.5% for 182 days commercial paper. Calculate the expected 91-day commercial paper rate 91 days from now, assuming that we get the same maturity value after 182 days. [8]
2. (d) (i) Shailesh invested ₹ 50,000 in debt-oriented fund when the NAV was ₹ 16.10, and sold the units allotted when the NAV was ₹ 17.10 after one year. Assume that there existed an entry load of 2% and no exit load. He received ₹ 2 per unit as dividend which is taxable at 30% during the year. There is no capital gains tax. Calculate the after tax rupee return from this investment. [4]
2. (d) (ii) Explain the important development and regulatory steps taken by Forward Market Commission. [4]

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

3. (a) Fill up the blanks in the following "Break Even Price" table – [10]

Case	Option	Party	Exercise Price	Premium	Market Price
1	Call	Buyer	?	20	160
2	?	Seller	2000	300	1700
3	?	Buyer	50	10	40
4	?	Seller	80	10	90
5	Put	Buyer	?	50	250
6	?	Seller	320	50	370
7	Call	Buyer	680	100	?
8	Call	Seller	?	80	580
9	Put	Buyer	1200	?	1020
10	Put	Seller	?	330	1870

3. (b) Following information relates to RS Ltd, which manufactures some parts of an electronics device which are exported to USA, Japan and Europe on 90 days credit terms.

Cost and Sales information –

Particulars	Japan	USA	Europe
Variable Cost per Unit	₹ 225	₹ 395	₹ 510
Export sale price per unit	Yen 650	US\$10.23	Euro 11.99
Receipts from sale due in 90 Days	Yen 78,00,000	US\$1,02,300	Euro 95,920

Foreign exchange rate information

Particulars	Yen/₹	US\$/₹	Euro/₹
Spot Market	2.417 – 2.437	0.0214 – 0.0217	0.0177 – 0.0180
3-Months Forward	2.397 – 2.427	0.0213 – 0.0216	0.0176 – 0.0178
3 months spot	2.423 – 2.459	0.02144 – 0.02156	0.0177 – 0.0179

Advice RS Ltd by calculating average contribution to sales ratio whether it should hedge its foreign currency risk or not. [10]

3. (c) (i) Given the following information of securities of R Ltd.–

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 Futures Contract on the BSE Index with 4 months Maturity is used to Hedge the value of Portfolio over next 3 months. One Future Contract is for delivery of 50 times the Index. Based on the information, Calculate – (I) Price of Future Contract, (II) The Gain on Short Futures Position if Index turns out to be 4,500 in 3 months. [2+(2+2)]

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3. (c) (ii) XYZ Ltd. borrows £20 million of 6 months LIBOR + 0.25% for a period of two years. T, Treasury Manager of XYZ, anticipates a rise in LIBOR, hence proposed to buy a Cap Option from ABC Bank at Strike Rate of 7%. The lump sum premium is 1% for the whole of the three resets period and the Fixed Rate of Interest is 6% p.a. The actual position of LIBOR during the forthcoming reset period is as follows –

Reset Period	LIBOR
1	8.00%
2	8.50%
3	9.00%

You are required to show how far Interest Rate Risk is hedged through Cap Option. **[1+3]**

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

4. (a) Suppose that all stocks have a rate of return with a standard deviation of 40% and that the correlation between rates of returns for all pairs of stocks is 0.25. Calculate the standard deviation of returns of a portfolio which has
- Equal holdings in 10 stocks; and
 - 38% each invested in two stocks, 3% invested in each of 8 stocks. **[4+4]**

4. (b) You are thinking about investing your money in the stock market. You have the following two stocks in mind: stock A and stock B. You know that the economy can either go in recession or it will boom. Being an optimistic investor, you believe the likelihood of observing an economic boom is two times as high as observing an economic depression.

State of the Economy	Probability	R _A	R _B
Boom		10%	-2%
Recession		6%	40%

You also know the following about your two stocks:

- Calculate the expected return for stock A and stock B
- Calculate the total risk (variance and standard deviation) for stock A and for stock B
- Calculate the expected return on a portfolio consisting of equal proportions in both stocks.
- Calculate the expected return on a portfolio consisting of 10% invested in stock A and the remainder in stock B.
- Calculate the covariance between stock A and stock B.
- Calculate the correlation coefficient between stock A and stock B.
- Calculate the variance of the portfolio with equal proportions in both stocks using the covariance from answer (V).
- Calculate the variance of the portfolio with equal proportions in both stocks using the portfolio returns and expected portfolio returns from answer (III). **[1×8]**

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4. (c) (i) An investor is holding 1000 shares of Fatlax Company. Presently the rate of dividend being paid by the company is ₹ 2 per share and the share is being sold at ₹ 25 per share in the market. However, several factors are likely to change during the course of the year as indicated below:

	Existing	Received
Risk Free Rate	12%	10%
Market Risk Premium	6%	4%
Beta Value	1.4	1.25
Expected Growth Rate	5%	9%

In view of the above factors whether the investor should buy, hold or sell the shares?
And why? [5]

4. (c) (ii) Explain the two techniques used in Industry Analysis. [3]

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

5. (a) (i) Beeta Ltd. has furnished the following information:

Earnings per share (EPS)	₹ 4
Dividend Payout Ratio	25%
Market Price per share	₹ 40
Rate of Tax	30%
Growth Rate of Dividend	8%

The company wants to raise additional capital of ₹ 10 lakhs including beta of ₹ 4 lakhs. The cost of debt (before tax) is 10% upto ₹ 2 lakhs and 15% beyond that.

Compute the after tax cost of equity and debt and the weighted average cost of capital. [1½+1½+2]

5. (a) (ii) X Ltd. a widely held company is considering a major expansion of its production facilities and the following alternatives are available: (₹ in lakhs)

Particulars	A	B	C
Share Capital	50	20	10
14% Debentures	--	20	15
Loan from a Financial Institution @ 18% p.a. Rate of Interest	--	10	25

Expected rate of return before tax is 25%. The rate of dividend of the company is not less than 20%. Corporate taxation rate is 50%. Which of the alternatives you would choose? Decide by computing rate of return on share capital. [5]

5. (b) Khan Limited is thinking of replacing its existing machine by a new machine which would cost ₹ 60 lakhs. The company's current production is 80,000 units, and is expected to increase to 1,00,000 units, if the new machine is bought. The selling price of the product

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would remain unchanged at ₹ 200 per unit. The following is the cost of producing one unit of product using both the existing and new machine:

	Existing Machine	New machine	Unit Cost (₹)
	(80,000 units)	(1,00,000 units)	Difference
Materials	75.00	63.75	(11.25)
Wages & Salaries	51.25	37.50	(13.75)
Supervision	20.00	25.00	5.00
Repairs and Maintenance	11.25	7.50	(3.75)
Power and Fuel	15.50	14.25	(1.25)
Depreciation	0.25	5.00	4.75
Allocated Corporate Overheads	10.00	12.50	2.50
	183.25	165.50	(17.75)

The existing machine has an account book value of ₹ 1,00,000, and it has been fully depreciated for tax purpose. It is estimated that machine will be useful for 5 years. The supplier of the new machine has offered to accept the old machine for ₹ 2,50,000. However, the market price of old machine today is ₹ 1,50,000 and it is expected to be ₹ 35,000 after 5 year. The new machine has a life of 5 years and a salvage value of ₹ 2,50,000 at the end of its economic life. Assume corporate Income tax rate at 40% and depreciation is charged on straight line basis for Income tax purposes. Further assume that book profit is treated as ordinary income for tax purpose. **[7+2+1]**

The opportunity cost of capital of the Company is 15%. Required:

- I. Estimate Net present Value of the Replacement Decision.
- II. Estimate the Internal Rate of Return of the Replacement Decision.
- III. Should Company go ahead with the Replacement Decision? Suggest.

Year (t)	1	2	3	4	5
PVIF _{0.15,t}	0.8696	0.7561	0.6575	0.5718	0.4972
PVIF _{0.20,t}	0.8333	0.6944	0.5787	0.4823	0.4019
PVIF _{0.25,t}	0.8000	0.6400	0.5120	0.4096	0.3277
PVIF _{0.30,t}	0.7692	0.5917	0.4552	0.3501	0.2693
PVIF _{0.35,t}	0.7407	0.5487	0.4064	0.3011	0.2230

5. (c) (i) The capital structure of a company as on 31st March, 2015 is as follows:

	Amount in (₹)
Equity Capital: 6,00,000 Equity Shares of ₹ 100 each	6 crore
Reserve and Surplus	1.20 crore
12% Debenture of ₹ 100 each	1.80 crore

For the year ended 31st March, 2015 the company is expected to pay equity dividend @ 24%. Dividend is likely to grow by 5% every year. The market price of equity share is ₹ 600 per share. Income-tax rate applicable to the company is 30%. Required:

- I. Compute the Current Weighted Average Cost of Capital.
- II. The company has plan to raise a further ₹ 3 crore by way of long-term loan at 18% interest. If loan is raised, the market price of equity share is expected to fall to ₹ 500 per share. Calculate the new weighted average cost of capital of the company. **[2+3]**

5. (c) (ii) List the advantages of a project report. **[5]**