Paper – 14 – ADVANCED FINANCIAL MANAGEMENT

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
		Identity	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

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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) A deep discount Bond issued at ₹2,500 will be redeemed at ₹1,00,000 after 25 years. Calculate the Post-tax yield for the investor, if Capital gain is taxed at 20% and indexation benefits of 6% annually is available. **[2]**

(b) State the non-banking financial institution. **[2]**

(c) The Market Price of Stock of Atco Ltd. is ₹ 102 and its Alpha is – 1.3%. The realized return on the stock is 16% p.a. and the Risk-free rate of return is 7.02% p.a. Market Risk premium is 7% p.a. Calculate the required rate of return on the Stock of ATCO Ltd., if its co-variance with the market portfolio declines by 50%. **[2]**

(d) An Indian Company is planning to invest in the US. The rates of inflation are 8% in India and 3% in USA. If the spot rate is currently ₹60.50/$, what spot rate can you expect after 5 years, assuming the inflation rates will remain the same over 5 years? **[2]**

(e) 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]**

(f) From the following quotes of a bank, determine the rate at which Yen can be purchased with Rupees.

₹/£ Sterling	75.31 – 33
£ Sterling/Dollar ($)	1.563 – 65
Dollar ($)/Yen (¥)	1.048/52 [per 100 Yen)

[2]

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

(h) Spot (Euro/Pound) = 1.6543/1.6557
Spot (Pound/NZ $) = 0.2786/0.2800
Calculate the % Spread on the Euro/Pound rate. **[2]**

(i) Madura Steel earns 12% on the equity. The growth rate of the dividends and earnings is 6%. The book value per share is ₹ 60. If the cost of equity is 14%. Ascertain the market price of the share of company, accounting to the Marakon Model of Valuation. **[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) List the any eight functions of a Financial System. **[8]**

2. (b) (i) P. Co. has to make payment of ₹ 2 million on 16th April 2015. It has a surplus money today. i.e., 15th January 2015, and the company has to decided to invest in Certificate of Deposits (CD's) of a leading Nationalized Bank at 8.00% p.a. Calculate how much money is required to invest now. **[5]**

2. (b) (ii) Distinguish between banks and NBFCs. **[3]**

2. (c) Kishore invested in a fund called Tiger on 7 February 2015 through the six month systematic investment plan, with each installment of ₹ 5000. The entry load for this plan is 1%, while the exit load is 2%, if redeemed within 24 months. The NAV during the six month period was:

Date	07.02.15	28.02.15	07.03.15	07.04.15	08.05.15	07.06.15	07.07.15
NAV (₹)	21.49	17.33	18.60	20.13	21.51	15.98	16.63

The fund declared a dividend of ₹ 4.50 per unit on 28.02.15, which was re-invested by the fund as per instruction of Kishore. Prepare a table to show the issue units each time Kishore invested and when dividend was re-invested. What is the invested amount and also arrive at the current value of the portfolio. Would Kishore make money if he decides to sell after six months? **[8]**

2. (d) (i) A one day repo is entered into on January 10, 2015 on an 11.99% 2018 security, maturing on April 7, 2018. The face value of the transaction is ₹ 5 Crores. The price of the security is ₹ 115.00. Assume that RBI has lent securities in the first leg to PNB. If the repo rate is 6%, calculate the settlement amount on January 10, 2015. [Use 360 day convention] **[4]**

2. (d) (ii) A mutual fund has a net asset value (NAV) of ₹ 50 at the beginning of the year. During the year a sum of ₹ 4 was distributed as income (dividend) besides ₹ 3 as capital gains distribution. At the end of the year NAV was ₹ 55, calculate total return for the year. Suppose the aforesaid Mutual Fund in the next year gives a dividend of ₹ 5 as income distribution and no capital gains distribution and NAV at the end of second year is ₹ 50. Ascertain the return for the second year. **[2+2]**

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

3. (a) The Equity Share of VCC Ltd is quoted at ₹ 210. A 3-month Call Option is available at a Premium of ₹ 6 per Share and a 3 – month Put Option is available at a Premium of ₹ 5 per Share. Ascertain the net pay-off to the Option Holder of a Call Option and a Put Option given that –

(I) Strike Price in both cases is ₹ 220 and

(II) The Share Price on the exercise day is ₹ 200, ₹ 210, ₹ 230 and ₹ 240. **[5+5]**

3. (b) Soundarya Polycarbons Ltd has the following information about LDPE and HDPE Granules (Raw Material used for manufacturing Plastic Films, Polyfilms and Plastic Sheets)-

Stock Item	LDPE Granules	HDPE Granules
Current market Price i.e., Spot Price [S_0]	₹ 75 per kg	₹ 85 per kg
Carrying Cost	4% p.a. [continuous compounding]	₹ 100 per Quintal per quarter (payable after 2 months)
3-Month's Futures Contract Rate (500 Kgs)	₹ 39,000	₹ 44,500

Risk Free Interest Rate is at 12% p.a. Advise Soundary Polycarbons on the course of action to be taken? **[10]**

3. (c) (i) Suppose a dealer quotes All in cost for a Generic Swap at 8% against six month LIBOR flat. If the national 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 181 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. **[1½+2+1½]**

3. (c) (ii) Describe the difficulties in applying the arm's length pricing. **[5]**

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

4. (a) The following is the information pertaining to stocks of two companies Sonar Ltd. and Safari Ltd.:

Expected Return (%)		**Probability**
Sonar Ltd.	**Safari Ltd.**	
-5	5	0.05
12	15	0.55
15	18	0.35
20	20	0.05

A portfolio is constructed by allocating the funds between Sonar Ltd. and Safari Ltd. in the ratio of 2 : 3. Calculate the portfolio return and risk. **[4+4]**

4. (b) The following are different state of economy, the probability of occurrence of that state and the expected rate of return from Security A and B in these different states.

State	**Probability**	**Rate of Return**	
		Security A	**Security B**
Recession	0.20	-0.15	0.20
Normal	0.50	0.20	0.30
Boom	0.30	0.60	0.40

Find out the expected returns and the standard deviations for these two securities. Suppose, an investor has ₹ 20,000 to invest, and he invests ₹ 15,000 in security A and balance in Security B, calculate the expected return and the standard deviation of the portfolio. **[2+2+4]**

4. (c) Following is data regarding six securities:

	A	**B**	**C**	**D**	**E**	**F**
Return (%)	8	8	12	4	9	8
Risk (%) Standard Deviation	4	5	12	4	5	6

(I) Which of these securities will be selected?
(II) Assuming perfect correlation, analyze, whether it is preferable to invest 75% in Security A and 25% in Security C. **[2+6]**

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

5. (a) Beta Ltd. is considering the acquisition of a personal computer costing ₹ 50,000. The effective life of the computer is expected to be five years. The company plans to acquire the same either by borrowing ₹ 50,000 from its bankers at 15% interest per annum or by lease. The company wishes to know the lease rentals to be paid annually which will match the loan option. The following further information is provided to you:

(I) The principal amount of the loan will be paid in five annual equal installments.
(II) Interest, lease rentals principal repayment are to be paid on the last day of each year.
(III) The full cost of the computer will be written off over the effective life of computer on a straight-line basis and the same will be allowed for tax purposes.
(IV) The company's effective tax rate is 40% and the after tax cost of capital is 9%.
(V) The computer will be sold for ₹ 1,700 at the end of the 5th year. The commission on such sales is 9% on the sale value and the same will be paid.

You are required: To compute the annual lease rental payable by Beta Ltd. which will result in indifference to the loan option. The relevant discount factors are as follows:

Year	1	2	3	4	5
Discount Factor	0.92	0.84	0.77	0.71	0.65

[10]

5. (b) The following is the capital structure of a Company:

Source of Capital	**Book Value (₹)**	**Market Value (₹)**
Equity Shares @ ₹ 100 each	80,00,000	1,60,00,000
9% Cumulative Preference Shares @ ₹ 100 each	20,00,000	24,00,000
11% Debentures	60,00,000	66,00,000
Retained Earnings	40,00,000	--
	2,00,00,000	2,50,00,000

The current market price of the company's equity share is ₹ 200. For the last year the company had paid equity dividend at 25% and its dividend is likely to grow 5% every year. The corporate tax rate is 30% and shareholders personal income tax rate is 20%. You are required to calculate:

(I) Cost of Capital for each source of capital.
(II) Weighted Average Cost of Capital on the basis of Book Value Weights.
(III) Weighted Average Cost of Capital on the basis of market Value Weights. **[4+3+3]**

5. (c) The ZEB Ltd. needs ₹ 5,00,000 for construction of a new plant. The following three financial plans are feasible:

(I) The company may issue 50,000 equity shares at ₹ 10 per share.
(II) The company may issue 25,000 equity shares at ₹ 10 per share and 2,500 debentures of ₹ 100 denomination bearing 8% rate of interest.
(III) The company may issue 25,000 equity shares at ₹ 10 per share and 2,500 preference shares at ₹ 100 per share bearing 8% rate of dividend.

If the company's earnings before interest and taxes are ₹ 10,000, ₹ 20,000, ₹ 40,000, ₹ 60,000 and ₹ 1,00,000, what are the earnings per share under each of the three financial plans? Which alternative would you recommend and why? Assume corporate tax rate to be 50%. **[10]**