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
		Prioritise	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 by 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**)

(a) Can old, sick physically handicapped pensioner who is unable to sign, open pension account or withdraw his/ her pension from the pension account? **[2]**

(b) Aircel Communications is trying to estimate the first-year operating cash flow (at t = 1) for a proposed project. The finance staff has collected the following information:

Projected Sales = ₹ 1 crore
Operating costs = ₹ 70 lakhs (not including depreciation)
Depreciation = ₹ 20 lakhs
Interest expense = ₹ 20 lakhs

The company faces a 30% tax rate. Calculate the project's operating cash flow for the year (t=1)? **[2]**

(c) The following securities are available in the market for investment

Securities	Return %	Standard Deviation (%)
Gilt edged security	6	0
Equity of Rolt Ltd.	20	20

If Mr. Vardhan is planning to invest ₹5,00,000 to construct a portfolio with standard deviation of 18%, then calculate the return on such portfolio. **[2]**

(d) The following market quotes are available. Assume there are no transaction costs be possible, calculate the arbitrage gains on ₹ 10,00,000 from the middle rates given below:

₹ 76,200 = £ 1 in London
₹ 46,600 = $ 1 in Delhi
$ 1.5820 = £ 1 in New York **[2]**

(e) State the term "Close" and "Closing Price" in commodity market. **[2]**

(f) Calculate percentage bid-ask spreads in the following cases? **[2]**

$ 1 = ₹ 35.15 – 36.45
£ 1 = ₹ 57.05 – 59.20
DM 1 = ₹ 21.15 – 21.90
FF 1 = ₹ 6.10 – 6.28

(g) A fund manager is contemplating payment of dividend for his scheme in six months time. He has cash but wants to park in Bills. He needs at least 8% returns over a period of 6 months from now. At what price he can purchase a T- Bill from the secondary market? **[2]**

(h) A put option due to mature is selling at ₹ 5 on a share which is selling at ₹ 75. The option has an exercise price of ₹ 80, is there an arbitrage opportunity? If yes, show how it works. **[2]**

(i) Khan Ltd. has a target capital structure of 40% debt and 60% equity for one of its new subsidiaries. The yield to maturity of the company's outstanding bonds is 9% and the tax rate is 30%. The CFO has calculated the company's WACC as 9.96%. Find out the company's equity cost of capital. **[2]**

(j) Historicalyy, when the market return changed by 10% the return on the stock of Arihant Ltd changed by 16%. If the variance of market is 257.81, then calculate the systematic risk of Arihant Ltd. **[2]**

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

2.(a)(i) A Mutual Fund Co. has the following assets under it on the close of business as on:

Company	No. of Shares	1st February, 2015 Market Price per share	2nd February, 2015 Market Price per share
L Ltd	20,000	20.00	20.50
M Ltd	30,000	312.40	360.00
N Ltd	20,000	361.20	383.10
P Ltd	60,000	505.10	503.90

Total No. of Units 6,00,000

I. Calculate Net Assets Value (NAV) of the Fund.

II. Following information is given :
Assuming one Mr. A, submits a cheque of ₹30,00,000 to the Mutual Fund and the Fund manager of this company purchases 8,000 shares of M Ltd; and the balance amount is held in Bank. In such a case, what would be the position of the Fund?

III. Find new NAV of the Fund as on 2nd February, 2015 **[2+5+1]**

2.(b)(i) Under what circumstances can a company registered as a Collective Investment Management Company raise funds from the public? **[4]**

2.(b)(ii) Suppose a company issues a Commercial Paper as per the following details:

Date of Issue	: 17th January 2015
Date of Maturity	: 17th April 2015
No. of Days	: 90 days
Face Value	: ₹1,000
Issue price	: ₹985
Credit rating exp.	: 0.5% of the size of issue
IPA charges	: 0.35%
Stamp Duty	: 0.5%

Calculate the cost of the commercial paper and yield to investor? **[3+1]**

2.(c)(i) List the unique features of National Level Commodity Exchanges. **[4]**

2.(c)(ii) You can earn a return of 13 percent by investing in equity shares on your own. You are considering a recently announced equity mutual fund scheme where the initial issue expense is 7 percent. You believe that the mutual fund scheme will earn 16.5 percent. At what recurring expenses (in percentage terms) will you be indifferent between investing on your own and investing through the mutual fund. **[2]**

2.(c)(iii) State the 'Hedging Approach' to financing working capital requirements of a firm. **[2]**

2. (d) Analyze the following table and select the best portfolio for an investor who has diversified holdings: **[8]**

	Market	**R_f**	**1**	**2**	**3**	**4**	**5**
Mean	12	6	14	16	26	17	10
SD - Risk	20	-	21	21	30	25	18
Beta	1.0	-	1.15	1.10	1.30	0.90	0.45

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

3.(a)(i) The following data relates to ABC Ltd.'s share prices:

Current price per share	₹ 180
Price per share in the 6m futures market:	₹ 195

It is possible to borrow money in the market for securities transactions at the rate of 12% per annum.
Required:

I. Calculate the theoretical minimum price of a 6-month futures contract.
II. Explain if any arbitrage opportunities exist. **[2+5]**

3.(a)(ii) Nifty Index is currently quoting at 1300. Each lot is 250. Mr. X purchases a March contract at 1300. He has been asked to pay 10% initial margin. Calculate the amount of initial margin. To what level Nifty futures should rise to get a percentage gain of 5%. **[1+2]**

3.(b)(i) The annual interest rate is 5% in the United States and 8% in the UK. The spot exchange rare is £/$ -1.50 and forward exchange rate, with one year maturity, is £/$ = 1.48 In view of the fact that arbitrager can be borrow $ 1000000 at current spot rate, calculate the arbitrageur profit/ loss? **[6]**

3.(b)(ii) An Indian importer has to settle an import bill for $1,30,000. The exporter has given the Indian exporter two options:

I. Pay immediately without any interest charges.
II. Pay after three months with interest at 5 per cent per annum.

The importer's bank charges 15 per cent per annum on overdrafts. The exchange rates in the market are as follows:
Spot rate (₹/$): 48.35/48.36
3 Months forward rate (₹/$): 48.81 / 48.83
The importer seeks your advice. Give your advice. **[2+2]**

3 (c)(i). For imports from UK, Philadelphia Ltd. of USA owes £650000 to London Ltd., payable on May, 2015. It is now 12 February, 2015. The following future contracts (contract size £62,500) are available on the Philadelphia exchange:

Expiry	**Current futures rate**
May	1.4900 $/£ 1
June	1.4960 $/£ 1

I. Illustrate how Philadelphia Ltd. can use future contracts to reduce the transaction risk if, on 20 May the spot rate is 1.5030 $/£ 1 and June futures are trading at 1.5120 $/£. The spot rate on 12 February is 1.4850 $/£ 1.
II. Calculate the hedge efficiency and comment on it. **[8+2]**

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

4 (a). A group of analysis believes that the returns of the portfolios are governed by two vital factors—
1. The rate of economic growth and 2. The sensitivity of stock to the developments in the financial markets. The sensitivities of returns with respect to these two factors are denoted by β_1 and beta β_1 respectively.

Further these analysts believe that returns on three carefully crafted Portfolios A, B and C must be predominantly governed by these two factors alone leaving remaining to some company/ portfolio specific factors. Assume that these three Portfolios A, B, and C are found to have following beta co-efficients:

Portfolio	**Expected Return, %**	β_1	β_1
A	16.00	1.00	0.80
B	25.00	1.50	1.30
C	32.00	2.00	1.50

Find out the Arbitrage Pricing Theory (APT) equation governing the returns on the portfolios. **[8]**

4 (b)(i) Mr. Khan has the following investments: **[(1+1)+4]**

Stock	**Expected return %**	**Portfolio weight %**	**Beta**
ABC	15.00	40	0.6
BAC	25.40	30	1.4
CAB	20.60	30	1.1

I. Calculate the expected return and β of Khan's portfolio.

II. Khan has now decided to take on some additional risk in order to increase his expected return, by changing his portfolio weights. If Khan's new portfolio's expected return is 22.12% and its β is 1.165, calculate the weights of his new portfolio.

4.(b)(ii) Explain "Re-investment Risk" involved in investment in Government Securities. **[2]**

4.(c)(i) Arvind Mills has expected dividend growth of 7% and the average market return is 12% per annum. Dividend expected end-year on Arvind is ₹ 2.50. The company stock has β = 2.00 and the risk free rate us 6%. Calculate the risk-adjusted rate of return on Arvind assuming the CAPM holds. If the current market price is ₹ 20, find the fair price of the equity share. Discuss the risks attached to the investment strategy. **[1+1+2]**

2.(c)(ii) Write short notes on Unsystematic Risk. **[4]**

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

5. (a) GMBH GMBH is in software development business. It has recently been awarded a contract from an Asian country for computerisation of its all offices and branches spread across the country. This will necessitates acquisition of a super computer at a total cost of ₹10 crore. The expected life of computer is 5 years. The scrap value is estimated at ₹5 crore. However, this value could even be much lower depending upon the developments taking place in the field of computer technology.

A leasing company has offered a lease contract will total lease rent of ₹1.5 crore per annum for 5 years payable in advance with all maintenance costs being borne by lessee.

The other option available is to purchase the computer by taking loan from the bank with variable interest payment payable semi-annually in arrears at a margin of 1% per annum above MIBOR. The MIBOR forecast to be at a flat effective rate of 2.4% for each 6 month period, for the duration of loan.

Tax rate applicable to corporation is 30%. For taxation purpose depreciation on computer is allowed at 20% as per WDV method, with a delay of 1 year between the tax depreciation allowance arising and deduction from tax paid & capital gain tax arising on sale of computer. You *are* required to calculate:

I. Compound annualised post tax Cost of Debt.

II. NPV of lease payment v/s purchase decisions at discount rate of 5% & 6%.

III. The break even post tax Cost of debt at which corporation will be indifferent between leasing and purchasing the computer.

IV. Which option should be opted for? **[1+(3+4)+1+1]**

5.(b)(i) 'Fixed Costs are unrelated to output and irrelevant for decision making purpose in all circumstances'.- Justify. **[3]**

5.(b)(ii) A company wants to invest in a machinery that would cost ₹ 50,000 at the beginning of year 1. It is estimated that the net cash inflows from operations will be ₹18,000 per annum for 3 years; if the company opts to service a part of the machine at the end of year 1 at ₹10,000 and the scrap value at the end of year 3 will be ₹12,500. However, of the company decides not to services the part, it will have to be replaced at the end of year 2 at ₹15,400. But in this case, the machine will work for the 4th year also and get operational cash inflow of ₹18,000 for the 4th year. It will have to be scrapped at the end of year 4 at ₹9,000. Assuming cost of capital at 10% and ignoring taxes, will you recommend the purchase of this machine based on the net present value of its cash flows?

If the supplier gives a discount of ₹ 5,000 for purchase, what would be your decision? (The present value factors at the end of years 0, 1, 2, 3, 4, 5 and 6 are respectively 1, 0.9091, 0.8264, 0.7513, 0.6830, 0.6209 and 0.5644). **[5+2]**

5.(c)(i) S Ltd. has ₹ 10,00,000 allocated for capital budgeting purposes. The following proposals and associated profitability indexes have been determined: **[6]**

Project	Amount (₹)	Profitability Index
1	3,00,000	1.22
2	1,50,000	0.95
3	3,50,000	1.20
4	4,50,000	1.18
5	2,00,000	1.20
6	4,00,000	1.20

Advice which of the above investment should be undertaken. Assume that projects are indivisible and there is no alternative use of the money allocated for capital budgeting.

5.(c)(ii) List the relevance of Social Cost Benefit Analysis for Private Enterprise. **[4]**