

Paper-14: ADVANCED FINANCIAL MANAGEMENT

Time Allowed: 3 Hours

Full Marks: 100

The figures in the margin on the right side indicate full marks.

Answer Question No. 1 which is compulsory.

From Section A: Answer any two questions.

From Section B: Answer any one question.

From Section C: Answer any one question.

From Section D: Answer any one question.

Working Notes should form part of the answer.

“Whenever necessary, suitable assumptions should be made and indicated in answer by the candidates.”

1. (a) Define 'owned fund' and 'net owned fund' in relation to non-banking financial company? [2]

- (b) Mr. Smith inherited the following securities

Type of security	Nos.	Annual Coupon%	Maturity Years	Yield
Bond A (₹1,000)	10	9	3	12
Bond B (₹ 1000)	10	10	5	12
Pref. Shares C (₹ 100)	100	11	-	13
Pref Shares D (₹100)	100	12	-	13

Likelihood of being called a premium over year

Required:

Compute the current value of portfolios of Smith's uncle

[Given PVIFA (12% 3 years) = 2402, PVIFA (12%. 5 YEARS) = 3,605]

[4]

- (c) What do you understand by 'hybrid debt security'? Give Examples. [5]

- (d) A company operating in JAPAN has today affected sales to an Indian company, the payment being due 3 months from the date of invoice. The invoice amount is 108 lakhs yen (¥). At today's spot rate, it is equivalent to ₹30 lakhs. It is anticipated that the exchange rate will decline by 10% over the 3 months period and in order to protect the yen (¥) payments, the importer proposes to take appropriate action in the foreign exchange market. The 3 months forward rate is presently quoted as 3.3. yen rupee. You are required to calculate the expected loss and to show how it can be hedged by a forward contract. [5]

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(e) The NAV of each unit of a closed-end fund at the beginning of the year was ₹ 18. By the end of the year its NAV equals ₹ 18.50. At the beginning of the year each unit was selling at a 2% Premium to NAV and by the end of the year each unit is selling at a 4% discount to NAV.

If the closed-end fund paid year end distribution of income of ₹ 2-50 on each unit, find the rate of return to the investor in the fund during the year. [2]

(f) Shine Ltd. has a Beta of 1.15. Return on market portfolio is 14%. Return on Shine is 15.85%. Risk free rate is 5%.
What is the value of Alpha for Shine Ltd.?
[2]

SECTION A

(Answer any two of the following.)

Question 2.

(a) Write down the other risks to which the derivatives clearing houses may be exposed.

(b) Today is 24th March. A refinery needs 1,050 barrels of crude oil in the month of September. The current price of crude oil is ₹ 3,000 per barrel. September futures contract at Multi Commodity Exchange (MCX) is trading at ₹ 3,200. The firm expects the price to go up further and beyond ₹ 3,200 in September. It has the option of buying the stock now. Alternatively it can hedge through futures contract.

(i) If the cost of capital, insurance, and storage is 15% per annum, examine if it is beneficial for the firm to buy now?

(ii) Instead, if the upper limit to buying price is ₹ 3,200 what strategy can the firm adopt?

(iii) If the firm decides to hedge through futures, find out the effective price it would pay for crude oil if at the time of lifting the hedge (a) the spot and futures price are ₹ 2,900 and ₹ 2,910 respectively, (b) the spot and futures price are ₹ 3,300 and ₹ 3,315 respectively. [4+(2+2+4)]

3. (a) Explain the typical attributes of hard infrastructure.

(b) What are the differences between Merchant Banks and Commercial Banks? [8+4]

Question 4.

Ganesh Ltd has promoted an open-ended equity oriented scheme in 2004 with two plans — Dividend Reinvestment Plan (Plan A) and Bonus Plan (Plan B); the face value of the units was ₹10 each. P and Q invested ₹5 Lakhs each on 01.04.2006 respectively in Plan A and Plan B, when the NAV was ₹42.18 for Plan A and P ₹35.02 for Plan B. P and Q both redeemed their units on 31.03.2013. Particulars of dividend and bonus declared on the units over the period were as follows —

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Date	Dividend	Bonus Ratio	NAV for Plan A	NAV for Plan B
15.09.2006	15	—	46.45	29.10
28.07.2007	—	1 : 6	42.18	30.05
31.03.2008	20	—	48.10	34.95
31.10.2008	—	1 : 8	49.60	36.00
15.03.2009	18	—	52.05	37.00
24.03.2010	—	1:11	53.05	38.10
27.03.2011	16	—	54.10	38.40
28.02.2012	12	1:12	55.20	39.10
31.03.2013	—	—	50.10	34.10

You are required to calculate the annual return for P and Q after taking into consideration the following information —

(a) Securities Transaction Tax at 2% on redemption

(b) Liability of Capital Gains to Income Tax —

(i) Long Term Capital Gains — Exempt

(ii) Short Term Capital Gains —10% Plus Education Cess at 3%.

[6+6]

SECTION B

(Answer any one of the following.)

Question 5.

(a) Explain the major sources for raising foreign currency finances?

(b) Your Company has to make a US \$ 1 Million payment in three month's time. The dollars are available now. You decide to invest them for three months and you are given the following information.

- The US deposit rate is 8% p.a.
- The sterling deposit rate is 10% p.a.
- The spot exchange rate is \$ 1.80 / pound.
- The three month forward rate is \$ 1.78/ pound.

(i) Where should your company invest for better results?

(ii) Assuming that the interest rates and the spot exchange rate remain as above, what forward rate would yield an equilibrium situation?

(iii) Assuming that the US interest rate and the spot and forward rates remain as in the original question, where would you invest if the sterling deposit rate were 14% per annum?

(iv) With the originally stated spot and forward rates and the same dollar deposit rate, what is the equilibrium sterling deposit rate?

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- (c) Ramesh has ₹60 Lakhs in hand. He is contemplating investment in the shares of Vignette Accessories Ltd (VAL) which is being traded at ₹ 200 per share.

Ramesh expects a dividend declaration of ₹37 per share 3 months hence and a market price of ₹185 per share at the end of the year, at which Ramesh plans to sell of all his holdings.

If the discount rate is 12% p.a., what will be the course of action if Ramesh discounts his cash flows under continuous compounding approach and monthly discounting approach? **[6+(3+1+2+2)+6]**

Question 6.

- (a) Unitech DLS's, international transfer of funds amounts to US \$20 Lakhs monthly. Presently the average transfer time is 10 days. It has been proposed that the transfer of funds be turned over to one of the larger international banks, which can reduce the transfer time to an average of two days. A charge of 0.5% of the volume of transfer has been proposed for this service. In view of the fact that the firm's opportunity cost of funds is 12%, should this offer be accepted?

- (b) Illustrate types of Liquidity risk.

- (c) You as a dealer in foreign exchange have the following position in Swiss Francs on 31.10.2013-

Particulars	SFr.	Particulars	SFr.
Balance in the Nostro A/c Credit	1,00,000	Forward purchase contract	30,000
Opening Position Over bought	50,000	cancelled	
Purchased a bill on Zurich	80,000	Remitted by TT	75,000
Sold forward TT	60,000	Draft on Zurich cancelled	30,000

What steps would Mr. Sen take, if he required maintaining a credit balance of S Fr. 30,000 in the Nostro A/c and keeping as over bought position on SFr. 10,000?

- (d) State the benefits of using Financial Derivatives? **[5+5+6+4]**

SECTION C (Answer any one of the following.)

Question 7.

- (a) Describe the term 'Portfolio rebalancing'.

(b) A group of analysts 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 β_2 respectively.

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

Portfolio	Expected Return, %	β_1	B_2
X	16.00	1.00	0.80
Y	25.00	1.50	1.30
Z	32.00	2.00	1.50

Find out the Arbitrage Pricing Theory (APT) equation governing the returns on the portfolios.

(c) Satendra has the following investments :

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) What is the expected return and β of Satendra's portfolio?
- (ii) Satendra has now decided to take on some additional risk in order to increase his expected return, by changing his portfolio weights. If Satendra's new portfolio's expected return is 22.12% and its β is 1.165, what are his new portfolio weights?

[4+6+(2+4)]

Question 8.

(a) An investor owns the following investments:

- (i) 1 million equity shares of P Ltd. Price ₹ 40, Beta 1.10
- (ii) 2 million equity shares of Q Ltd. Price ₹ 30, Beta 1.20
- (iii) 3 million equity shares of R Ltd. Price ₹ 10, Beta 1.30

The investor wants to enhance the beta of his portfolio to 1.50. Suggest.

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(b) Sumit Mills has expected dividend growth of 7% and the average market return is 12% per annum. Dividend expected end-year on Sumit is ₹ 2.50. The company stock has $\beta = 2.00$ and the risk free rate is 6%. What is the risk-adjusted rate of return on Sumit assuming the CAPM holds? What is the fair price of the equity share if the current market price is ₹ 20? What are the risks attached to the investment strategy?

(c) The rates of return on the security of Company P and market portfolio for 10 periods are given below:

Period	Return of Security P (%)	Return on Market Portfolio (%)
1	20	22
2	22	20
3	25	18
4	21	16
5	18	20
6	-5	8
7	17	-6
8	19	5
9	-7	6
10	20	11

(i) What is the beta of Security P?

(ii) What is the characteristic line for Security P?

[5+3+(6+2)]

SECTION D

(Answer any one of the following.)

Question 9.

(a) Clustfine company is considering the purchase of a new plastic extrusion machine at a cost of ₹ 2,00,000. The future cashflows, after tax, are dependent on the success of the company's marketing program and on the economic growth in the geographic area. The following probability tree outlines the possible cash flows and their probabilities of occurrence.

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Branch	Initial Probability	Yr 1 Cash Flow(000s)	Conditional Probability*	Yr 2 Cash Flow (000s)
1	0.20	- ₹200	0.25	- ₹1,500
2	0.20	- ₹200	0.25	- ₹1,100
3	0.20	- ₹200	0.50	- ₹700
4	0.60	₹200	0.10	- ₹300
5	0.60	₹200	0.80	₹100
6	0.60	₹200	0.10	₹500
7	0.20	₹600	0.50	₹900
8	0.20	₹600	0.25	₹1,300
9	0.20	₹600	0.25	₹1,700

*Probability in period 2, probability in period 1 given.

What are the joint probabilities of occurrence of the various branches?

If the risk-free rate is 8% what is

- (i) the NPV of each of the 9 complete branches
- (ii) the expected value and standard deviation of the probability distribution of possible net present values?

- (b)** A firm can make investment in either of the following two projects. The firm anticipates its cost of capital to be 10% and the net (after tax) cash flows of the projects for five years are as follows:

(Figures in ₹'000)

Year	0	1	2	3	4	5
Project – X	(500)	85	200	240	220	70
Project – Y	(500)	480	100	70	30	20

The discount factors are as under:

Year	0	1	2	3	4	5
PVF (10%)	1	0.91	0.83	0.75	0.68	0.62
PVF (20%)	1	0.83	0.69	0.58	0.48	0.41

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Required:

- (i) Calculate the NPV and IRR of each project.
- (ii) State with reasons which project you would recommend.
- (iii) Explain the inconsistency in ranking of two projects.

[(4+5)+(5+3+3)]

Question 10.

(a) Nizam Toys Ltd. has a new project for the manufacture of remote controlled toy car. The product is a novelty in the toy market. The company had already spent an amount of ₹ 7,20,000 in developing the product and is eager to place it in the market as quickly as possible. The company estimates a five-year market life for the product. The maximum number it can produce in any given year is limited to 36 lakh units. The expected market scenario will support a sale equivalent of 20%, 50%, 100% and 30% of the capacity in 1st year, 2nd year, 3rd year, 4th year and 5th year respectively.

Investment in the project is expected to be completed in one year and will have the following major components :

(₹ Lakhs)

Land, buildings and civil works	12.50
Machinery and equipments	87.50
Interest during construction	8.00

Cost structure of the toy is as given below :

Materials	₹ 2.00
Conversion cost excluding depreciation	₹ 1.00

Materials are required to be held in stock for 15 days at an average while finished goods may be held for up to 60 days. Production cycle is 12 days. Credit expectancy of the market is 30 days both on sale and purchases. It is the usual practice of the company to keep a cash-in-hand reserve for 15 days expenses not provided for specifically elsewhere in the working capital estimates.

Working capital requirements should be worked out on the above basis for the first year. Same level in terms of money will be maintained in the subsequent years, though composition may change.

The following assumptions are made:

- The project will be financed by a combination of equity and term loans in a ratio as close to 30:70 as practicable.
- Loans will carry an interest of 20% p.a.
- Loan disbursement will be uniform throughout the period of construction, simple interest at the same rate will be applied.
- Selling price per unit will be ₹ 6.

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- One year moratorium on the principal will be available.
- Product promotion expenses for the first three years will be ₹ 2.00 lakhs, ₹ 1.00 lakh and ₹ 0.50 lakh respectively.
- Production is prorated every month equally.
- The factory operates one shift for 360 days in a year.
- Ignore interest on overdraft.
- Working capital requirement will not increase after the initial first year.

Calculate:

- (i) Initial working capital required.
- (ii) Total financial investment in the project and its financing.
- (iii) Profit before depreciation and interest charges for 5 years.
- (iv) Debts service coverage ratio.

(b) The paid-up capital of a company is ₹ 100 lakh. It has been declaring 20% dividend for the last 5 years.

It has under consideration an expansion programme involving an investment of ₹ 100 lakh and its board of directors desires to raise the dividend to 25%. The expansion programme can be financed by four alternatives – A) 100% equity; B) 18% institutional loan (debt) and equity 50:50; C) Equity and debt, 70:30; and D) 100% debt. Income tax and dividend tax rate are 35% and 10% respectively.

Assuming rate of return as X, analyse the various financing alternatives from the point of view of taxes.

[(4+4+3+3)+6]