

Paper 14 - Strategic Financial Management

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Full Marks: 100

Time Allowed: 3 Hours

This paper contains two sections A and B. Section A is compulsory and contains question No.1 for 20 marks. Section B contains question Nos. 2 to 8, each carrying 16 marks.

Answer any five questions from Section B.

Section – A [20 Marks]

1. Choose the correct option among four alternative answer. (1 mark for correct choice, 1mark for justification.) [10×2= 20]

(i) If the risk free rate of interest (R_f) is 10%, and expected return on market portfolio (R_m) is 15%, ascertain expected return of the portfolio if portfolio beta is 0.30.

- (a) 10.5%
- (b) 11.5%
- (c) 12.5%
- (d) 13.5%

(ii) There are two projects, Project A & B. From the given data please. Suggest which project will be selected?

	Project A	Project B
Investment	5000000	7500000
Net Cash Inflow	6250000	9150000
$K = 10\%$		

- (a) Project A
- (b) Project B
- (c) A & B both
- (d) None of the above

(iii) Consider the following quotes: Spot (Euro/Pound) = 1.3904 — 1.3908 Spot (Pound/NZ \$) = 0.5020 — 0.5040 What will be the possible % spread on the cross rate between Euro and NZ \$?

- (a) 0.40
- (b) 0.39
- (c) 0.41
- (d) 0.43

(iv) The spot price of securities of X Ltd. is ₹160. With no dividend and no carrying cost, compute the theoretical forward price of the securities for 1 month. You may assume a risk free interest rate of 9% p.a.

- (a) ₹160
- (b) ₹162.75
- (c) ₹161.20
- (d) ₹159.20

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(v) A mutual Fund had a Net Asset Value (NAV) of ₹72 at the beginning of the year. During the year, a sum of ₹6 was distributed as Dividend besides ₹ 4 as Capital Gain distributions. At the end of the year, NAV was ₹ 84. Total return for the year is:

- (a) 30.56%
- (b) 31.56%
- (c) 40.56%
- (d) 41.56%

(vi) Sales unit	2,000	2,800
Selling price per unit	₹ 10	₹ 10
EPS	₹ 9.60	₹ 38.40

What is the Degree of Combined Leverage?

- (a) 6.5
- (b) 5.6
- (c) 7.5
- (d) 5.7

(vii) The following details relate to an investment proposal of XYZ Ltd. Investment outlay — ₹ 100 lakhs Lease Rentals are payable at ₹180 per ₹1,000 Term of lease — 8 years Cost of capital—12% What is the present value of lease rentals, if lease rentals are payable at the end of the year? [Given PV factors at 12% for years (1-8) is 4.9676.

- (a) ₹ 98,14,680
- (b) ₹ 89,41,680
- (c) ₹ 94,18,860
- (d) ₹ 96,84,190

(viii) A company has obtained quotes from two different manufacturers for an equipment.

The details are as follows:

Product Cost (Million) Estimated life (years) Make X 4.50 10

Make Y 6.00 15

Ignoring operation and maintenance cost, which one would be cheaper?

The company's cost of capital is 10%.

[Given: PVIFA (10%, 10 years) = 6.1446 and PVIFA (10%, 15 years) = 7.6061]

- (a) Make X will be cheaper
- (b) Make Y will be cheaper
- (c) Cost will be the same
- (d) None of the above

(ix) The capital structure of a company is as under:

300000 Equity shares of ₹10 each

32000, 12% Preference shares of ₹100 each

General Reserve ₹15,00,000

Securities Premium Account ₹5,00,000

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25000, 14% Fully Secured Debentures of ₹100 each Term Loan of ₹13,00,000.

Based on these, the leverage of the company is:

- (a) 60.22%
- (b) 58.33%
- (c) 55.21%
- (d) 62.10%
- (x)** The spot Value of Nifty is 4430. An investor bought a one-month Nifty for 4410 call option for a premium of ₹12. The option is:
- (a) In the money
- (b) At the money
- (c) Out of the money
- (d) Insufficient data.

Section – B

Answer any five questions.

[16×5= 80]

- 2. (a)** M Ltd. is attempting to decide whether or not to invest in a project that requires an initial outlay of ₹ 4 lakhs. The cash flows of the project are known to be made up of two parts, one of which varies independently over time and the other one which display perfect positive correlation. The cash flows of the six-year life of the project are

Year	(₹)		(₹)	
	Perfectly Components	Correlated	Independent Component	
	Mean	Standard Deviation	Mean	Standard Deviation
1	40,000	4,400	42000	4000
2	50,000	4,500	50000	4400
3	48,000	3,000	50000	4800
4	48,000	3,200	50000	4000
5	55,000	4,000	52000	4000
6	60,000	4,000	52000	3600

- (i)** Find out the expected value of the NPV and its standard deviation, using a discount rate of 10%
- (ii)** Also find the probability that the project will be successful, i.e. $P(NPV > 0)$ and state the assumptions under which this probability can be determined. **[12]**
- (b)** A manager is trying to decide which of the three mutually exclusive projects to undertake. Each of the projects could lead to varying net profits which are classified as outcomes I II III. Manager has constructed the following pay-off table or matrix (a conditional profit tables):

Project	I	II	III
A	50,000	65,000	80,000
B	70,000	60,000	75,000
C	90,000	80,000	55,000
Probability	0.25	0.50	0.25

Which project should be undertaken?

[4]

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3. (a) Mr. Z has invested in the three mutual funds as per the following details:

Particulars	MF X	MF Y	MF Z
Amount of investment	2,00,000	4,00,000	2,00,000
Net assets value (NAV) at the time of purchase (₹)	10.30	10.10	10.00
Dividend received up to 31.03.2023	6,000	NIL	5,000
NAV as on 31/03/2023	10.25	10.00	10.20
Effective yield p.a. as on 31/03/2023	9.66	11.66	24.15

Assume 1 year = 365 days

Mr. Z has misplaced the documents of his investment. Help him in finding of his original investment after ascertaining the following:

- (i) Numbers of units in each scheme,
- (ii) Total net present value,
- (iii) Total yield,
- (iv) Number of days of investment held.

[10]

- (b) Sovereign Investments have floated an Equity Based Fund Scheme called "A – Cube", the funds of which will be invested only in stocks and Bonds of Infrastructure and Construction Companies. 60% of the Fund Value is invested in Companies engaged Commercial Construction Services and the other 40% in companies engaged in developing Residential Colonies /Townships. Average Beta of Return from development of residential Townships is measured at 1.9 and that from commercial construction is measured at 1.4. The Benchmark Index yields 11.20% return and RBI Bonds carry an interest rate of 4.25 %.

Ascertain Jensen's Alpha from the following monthly particulars relating to "A- cube ". Opening NAV for January was ₹ 17.75

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Closing NAV	18.60	17.80	18.20	18.00	17.80	16.80	17.20	17.80	17.90	18.10	18.80	18.50
Dividend payment		0.75				1.20	—	—	—	—	—	—

[6]

4. (a) Mahadev Real Estate Ltd invested at the beginning of year 1 in certain Equity Shares as below:

Name of the Company	No. of Shares	Cost (₹)
M Ltd	1,000 (₹ 100 each)	2,00,000
N Ltd	500 (₹ 10 each)	1,50,000

in Year 1, 10% dividend was paid out by M Ltd., and 30% Dividend paid out by N LTD. At the end of 1 Year, market quotation showed a value of ₹ 220 and ₹ 290 per share for M Ltd. N Ltd respectively.

At the beginning of year 2, Investment advisors indicate –

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- (a) that the Dividend from M Ltd. and N Ltd. for the Year 2 are likely to be 20% and 35% respectively and
- (b) that the probabilities of market quotations at the end of Year 2 are as below:

Probability	Price Per Share of M Ltd.	Price per Share of N Ltd.
0.2	220	290
0.5	250	310
0.3	280	330

- (i) Calculate the average Return from the Portfolio for the Year 1
- (ii) Calculate the expected Average Return from the portfolio for the year 2, and
- (iii) Advise Mahadev Real Estate Ltd of the comparative risk in the two Investment by Calculation the Standard Deviation in each case. **[10]**

- (b) Return on portfolios, W and L for the past 4 years are—

Year	1	2	3	4
Portfolio W	12.00%	12.50%	11.50%	13%
Portfolio L	15.00%	11.25%	13.50%	11.00%

Beta factor of the two portfolios are 1.3 and 1.2 respectively. If the market Portfolio fetches 12 % return and RBI bonds. Which are considered risk free, yield 5 % return which of the above two portfolios will an investor prefer? **[6]**

5. (a) Compute the theoretical forward price of the following securities:

Securities	P Ltd	Q Ltd	R Ltd
Spot price	₹ 4,500	₹ 350	₹ 900
Dividend Expected	₹ 50	₹ 20	₹ 50
Dividend Receivable in	2 months	3 months	4 months
6 month's futures contract rate	₹ 4650	₹ 360	₹ 900

You may assume a Risk Free Interest Rate of 9% p. a. What is the course of action to benefit from futures contract? Is there any arbitrage? **[8]**

- (b) XYZ Ltd. shares are presently quoted at ₹100. The 3 Month Call Option carries a premium of ₹15 for an Exercise Price of ₹120 and a 3 Month's put option carries a premium of ₹20 for a strike price ₹120.

If the spot price on the expiry date is in the range of ₹90 to ₹160 with an interval of ₹5, calculate Net Pay-Off along with graph for both call option and put option from the option buyer's perspective and option writer's perspective. **[8]**

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6. (a) X Ltd. an Indian company has a payable of US\$ 1,00,000 due in 3 months. The company is considering to cover the payable through the following alternatives:
- i) Forward contract,
 - ii) Money market
 - iii) Option

The following information is available with the company: Exchange rate:

Spot	₹/\$45.50/45.55 3
Forward	₹/\$45.90/46.00

Interest Rate (%):	Per annum
US	4.5/5.0 (Deposit/Borrow)
India	10.0/11.0 (Deposit/Borrow)

Call option on \$ with a strike price of ₹46 is available at a premium of ₹ 0.10/\$. Put option on \$ with a strike price of ₹ 46.00 is available with a premium of ₹ 0.05/\$.

Treasury department of the company forecasted the future spot rate after 3 months to be:

Spot rate after 3-m Probability

₹ 45.60/\$	0.10
₹ 46.00/\$	0.60
₹ 46.40/\$	0.30

You are required to suggest the best alternative of hedging.

[8]

(b) A firm is contemplating import of a consignment from USA for a value of USD 10,000. It requires 90 days to make payment. Supplier has offered 60 days' interest-free credit and is willing to offer additional 30 days' credit at an interest rate of 6% per annum. The Bankers of the firm offer a short loan for days at 9 % per annum. Bankers quotation for Foreign exchange is

- (a) Spot 1 USD = ₹ 46.00,
- (b) 60 days forward 1 USD = ₹ 46.20,
- (c) 90 days for ward 1 USD = ₹ 46.35.

You are required to advice the firm as to whether it should—

- (i) Pay the supplier in 60 days or
- (ii) Avail the suppliers offer of 90 days' credit.

[8]

7. (a) XYZ. Ltd. is considering the possibility of purchasing a multipurpose machine which cost ₹ 10 lakhs. The machine has an expected life of 5 years. The machine generates ₹ 6 lakhs per year before depreciation and tax, and the management wishes to dispose the machine at the end of 5 years which will fetch ₹ 1 lakh. The depreciation allowable for the machine is 25% on written down value and the company's tax rate is 50%. The company approached a NBFC for a five-year lease for financing the asset which quoted a rate of ₹ 28 per thousand per month. The company wants you to evaluate the proposal with purchase option.

The cost of capital of the company is 12% and for lease option it wants you to consider a discount rate of 16%.

[8]

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- (b) An investor estimates return on shares in two different companies under four different scenarios as under:

Scenario	Probability of its happening	Return on Security A (%)	Return on Security B (%)
I	0.2	12	10
II	0.4	16	20
III	0.3	18	25
IV	0.1	25	30

You are required to:

- (i) Calculate Expected rate of return if the investor invests all his funds in Security A alone or in Security B alone.
- (ii) Determine the preferred security based on return.
- (iii) Ascertain the risk associated with each of the security.
- (iv) If the investor invests 40% in Security A and 60% in Security B, what is the expected return and the associated risk. **[8]**

8. Write short notes on any four of the following:

[4×4=16]

- (a) Optionally Convertible Debentures(OCD) and its advantages.
- (b) Four exchange of India.
- (c) Credit risks and its types.
- (d) Sources of Foreign Currency.
- (e) Major main functions and activities of RBI.