Paper 14 – Strategic Financial Management

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Full Marks : 100   **Time allowed: 3 hours**

**Answer Question No. 1 which is compulsory carries 20 marks and
answer any 5 Question from Q. No 2 to Q. No. 8**

Section A [20 marks]

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

    (i) Unlevered beta and effective tax rate of S Ltd is 0.8 and 35 percent respectively. The company intends to undertake a project with 60 percent debt financing. Assuming risk free rate of 7.5 % and market premium 8 %, calculate cost of equity (rounded up to two decimal points)
    (A) 13.90%
    (B) 20.14%
    (C) 16.40%
    (D) none of (A), (B) or (C)

    (ii) The spot and 6 months forward rates of US $ in relation to the rupee (₹/$) are ₹40.9542/41.1255 and ₹41.8550/9650 respectively. What will be the annualized forward margin (premium with respect to Bid Price)?
    (A) 4.10%
    (B) 4.40%
    (C) 4.50%
    (D) none of (A), (B) or (C)

    (iii) 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%

    (iv) The standard deviation of Greaves Ltd. Stock is 24% and its correlation coefficient with market portfolio is 0.5. The expected return on market is 16% with the standard deviation of 20%. If the risk free return is 6%, what will be the required rate of return on Greaves Ltd. Script?
    (A) 12%
    (B) 11%
    (C) 13%
    (D) 11.5%

    (v) Your customer requests you to book a sale forward exchange contract for US $ 2 million delivery 3rd month. The quotes are:
    Spot US $ 1= ₹48.050/.060
    1month margin= 0.0850/.0900
    2 month margin=0.2650/.2700
    3 month margin=0.5300/.5350
    You are required to make an exchange profit of 0.125%. Ignore telex charges and brokerage.
    (A) ₹120000

(B) ₹230000

(C) ₹75000

(D) ₹100000

(vi) The Sterling is trading at ₹1.6100 today. Inflation in UK is 4% and that in USA is 3%. What could be spot rate ($/£) after 2 years?

(A) 1.5792

(B) 1.5892

(C) 1.5992

(D) 1.5939

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

300000 Equity shares of ₹10 each

32000 , 12% Preference shares of ₹100 each

General Reserve ₹1500000

Securities Premium Account ₹500000

25000, 14% Fully Secured Debentures of ₹100 each

Term Loan of ₹1300000.

Based on these, the leverage of the company is :

(A) 60.22%

(B) 58.33%

(C) 55.21%

(D) 62.10%

(viii) Historically, when the market return changed 10%, the return on stock of Arihant Ltd changed by 16%. If variance of market is 257.81, what would be the systematic risk for Arihant Ltd?

(A) 320%

(B) 480%

(C) 660%

(D) Insufficient information.

(ix) The beta co-efficient of equity stock of ARISTO LTD is 1.6. The risk free rate of return is 12% and the required rate of return is 15% on the market portfolio. If dividend expected during the coming year ₹2.50 and the growth rate of dividend and earnings is 8%, at what price the stock of ARISTO LTD. Can be sold (based on CAPM)?

(A) ₹12.50

(B) ₹16.80

(C) ₹28.41

(D) Insufficient Information.

(x) The ratio of current assets (₹3,00,000) to current liabilities (₹2,00,000) is 1.5 : 1. The accountant of this firm is interested in maintaining a current ratio of 2 : 1 by paying some part of current liabilities. Hence, the amount of current liabilities which must be paid for this purpose is

(A) ₹ 1,00,000

(B) ₹ 2,00,000

(C) ₹ 2,50,000

(D) ₹ 1,50,000

Section B [80 marks]
Answer any 5 questions from this section

2. (a) Das Ltd. a manufacturing company produces 25,000 litres of special lubricants in its plant. The existing plant is not fully depreciated for tax purposes and has a book value of ₹ 3 lakhs (it was bought for ₹ 6 lakh six years ago). The cost of the product is as under:

Particulars	Cost/Litre (₹)
Variable costs	60.00
Fixed Overheads	15.00
	75.00

It is expected that the old machine can be used for further period of 10 Years by carrying out suitable repairs at a cost of ₹2 lakh annually.

A manufacturer of machinery is offering a new machine with the latest technology at ₹10 lakhs after trading off the old plant (machine) for ₹1 lakh. The projected cost of the product will then be:

Particulars	Cost/Litre (₹)
Variable costs	45.00
Fixed Overheads	20.00
	65.00

The fixed overheads are allocations from other department plus the depreciation of plant and machinery. The old machine can be sold for ₹ 2 lakh in the open market. The new machine is expected to last for 10 years at the end of which, its salvage value will be ₹1 lakhs. Rate of corporate taxation is 50%. For tax purposes, the cost of the new machine and that of the old one may be depreciated in 10 years. The minimum rate of return expected is 10%

It is also anticipated that in future the demand for the demand for the product will remain at 25,000 litres.

Advise whether the new machine can be purchased Ignore capital gain taxes.
[Given: PVIFA (10%, 10 years) = 6.145, PVIF (10%, 10 years) = 0.386]   [6 marks]

(b) Following are the estimates of the net cash flows and probability of a new project of M/s X Ltd.:

Particulars	Year	P = 0.3	P = 0.5	P = 0.2
Initial investment	0	4,00,000	4,00,000	4,00,000
Estimated net after tax cash inflows per year	1 to 5	1,00,000	1,10,000	1,20,000
Estimated salvage value (after tax)	5	20,000	50,000	60,000

Required rate of return from the project is 10%. Find:
i) The expected NPV of the project.
ii) The best case and the worst case NPVs.
iii) The probability of occurrence of the worst case if the cash flows are: (a) perfectly dependent overtime, (b) independent overtime.
iv) Standard deviation and coefficient of variation assuming that there are only three streams of cash flows, which are represented by each column of the table with the given probabilities.
v) Coefficient of variation of X Ltd. on its average project which is in the range of 0.95 to 1.0. If the coefficient of variation of the project is found to be less riskier than average, 100 basis points are deducted from the Company's cost of capital.

Should the project be accepted by X Ltd.?   [10 marks]

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

Company	No. of Shares	1st February 2017 Market Price per share (₹)	2nd February 2017 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?

Find new NAV of the fund as on 2nd February 2017. **[6 marks]**

(b) The following are the data on six portfolios.

Portfolio	Average annual return	Standard Deviation	Correlation with market
P	18.6	27.0	0.81
Q	14.8	18.0	0.65
R	15.1	8.0	0.98
S	22.0	21.2	0.75
T	-9.0	4.0	0.45
U	26.5	19.3	0.63
Market Risk	12.0	12.0	
Risk Free Rate	9.0		

(i) Rank these Portfolios using —
   - Sharpe's Method, and
   - Treynor's Method.

(ii) Compare the ranking in part (i) and explain the reasons behind the differences. **[10 marks]**

4. (a) A portfolio Manager has the following four stocks in his portfolio:

Security	No. of shares	Market price per share (₹)	β
VSL	10,000	50	0.9
CSL	5,000	20	1.0
SML	8,000	25	1.5
APL	2,000	200	1.2

Compute the following:

(i) Portfolio Beta

(ii) If the Portfolio Manager seeks to reduce the Beta to 0.8, how much Risk Free investment should he bring in?

(iii) If the Portfolio Manager seeks to increase the Beta to 1.2, how much Risk Free investment should he bring in? **[12 marks]**

(b) Calculate the market sensitivity index and the expected return on the Portfolio from the following data;

Standard deviation of an asset	4.5%
Market standard deviation	4.0%
Risk – free rate of return	15.0%
Expected return on market Portfolio	17.0%
Correlation coefficient of Portfolio with market	0.89

What will be the expected return on the Portfolio, if Portfolio beta is 0.5 and the risk free return is 10%. **[4 marks]**

5. (a) Given the following information—

BSE Index   50,000
Value of Portfolio   ₹1,01,00,000
Risk Free Interest Rate   9% p.a.
Dividend Yield on Index   6% p.a.
Beta of Portfolio   2.0

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 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 45,000 in 3 months.

(b) The market received rumour about PQR Corporation's tie-up with a multinational company. This has induced the market price to move up. If the rumour is false, PQR Corporation stock price will probably fall dramatically. To protect from this an investor has bought the call and put options.
He purchased one 3 months call with a striking price of ₹42 for ₹2 premium, and paid ₹1 per share premium for a 3 months put with a striking price of ₹40.
   (i) Determine the Investor's position if the tie up offer bids the price of PQR Corporation's stock up to ₹44 in 3 months.
   (ii) Determine the Investor's ending position, if the tie-up programme fails and the price of the stock falls to ₹36 in 3 months.

6. (a) 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?   [10 marks]

(b) An Indian customer who has imported equipment from Germany has approached a bank for booking a forward Euro contract. The delivery is expected six months from now. The following rates are quoted:
($/Euro) spot 0.8453/0.8457
6m-Swap points 15/20
₹/$ spot 46.47/46.57
6m-Swap points 20/30
What rate the bank will quote, if it needs a margin of 0.5%?   [6 marks]

7. (a) The S. Beverages Ltd has taken a plant on lease, valued at ₹ 20 crore. The lease arrangement is in the form of a leveraged lease. The Kuber Leasing Limited is the equity participant and the Hindusthan Bank Ltd. (HBL) is the loan participant. They fund the investment in the ratio of 2:8. The loan from HBL carries a fixed rate of interest of 19 percent, payable in 6 equated annual installments. 'The lease term is 6 years, with lease rental payable annually in arrear.
   (i) Compute the equated annual installment from the point or view of HBL.
   (ii) If the lease rate is unknown, and HBL's per-tax yield is 25 percent, what is the minimum lease rake that must be quoted'?   [8 marks]

(b) Securities X and Y have standard deviations of 3% and 9%. Nitin is having a surplus of ₹20 Lakhs for investment in these two securities. How much should he invest in each of these securities to minimize risk, if the correlation co-efficient for X and Y is — (i) -1; (ii) -0.30; (iii) 0; (iv) 0.60 **[8 marks]**

8. **Answer any four questions:** **[marks 4*4]**
   (a) Write down the benefits of Rolling Settlement.
   (b) What are the benefits of future trading?
   (c) What steps are involved in hedging?
   (d) NBFCs lend and make investments and hence their activities are akin to that of banks. – State the differences.
   (e) Write short note on Leading and Lagging