Roll No. .....

NOV 2016

FINAL
GROUP-I PAPER-2
STRATEGIC FINANCIAL MANAGEMENT

Total No. of Questions – **7**

Total No. of Printed Pages – **12**

Time Allowed – **3** Hours

Maximum Marks – **100**

# NAM

Answers to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate who has not opted for Hindi Medium, his/her answers in Hindi will not be valued.

Question No. **1** is compulsory.

Candidates are also required to answer any **five** questions from the remaining **six** questions.

In case, any candidate answers extra question(s)/sub-question(s) over and above the required number, then only the requisite number of questions first answered in the answer-book shall be valued and subsequent extra question(s) answered shall be ignored.

Wherever appropriate, suitable assumptions may be made and indicated in the answers by the candidate.

Working notes should form part of the respective answers.

**Marks**

1. (a) On April 3, 2016, a Bank quotes the following : **5**

| | | |
|---|---|---|
| Spot exchange Rate (US $ 1) | INR 66.2525 | INR 67.5945 |
| 2 months' swap points | 70 | 90 |
| 3 months' swap points | 160 | 186 |

In a spot transaction, delivery is made after two days.

Assume spot date as April 5, 2016.

Marks

Assume 1 swap point = 0.0001,

You are required to :

(i) ascertain swap points for 2 months and 15 days. (For June 20, 2016),

(ii) determine foreign exchange rate for June 20, 2016, and

(iii) compute the annual rate of premium/discount of US$ on INR, on an average rate.

(b) The following information is available in respect of Security A : **5**

| | |
|---|---|
| Equilibrium Return | 12% |
| Market Return | 12% |
| 6% Treasury Bond trading at | ₹ 120 |
| Co-variance of Market Return and Security Return | 196% |
| Coefficient of Correlation | 0.80 |

You are required to determine the Standard Deviation of :

(i) Market Return and

(ii) Security Return

(c) Mr. A has invested in three Mutual Fund (MF) schemes as per the details given below : **5**

| Particulars | MF 'A' | MF 'B' | MF 'C' |
|---|---|---|---|
| Date of Investment | 01-11-2015 | 01-02-2016 | 01-03-2016 |
| Amount of investment (₹) | 1,00,000 | 2,00,000 | 2,00,000 |
| Net Asset Value (NAV) at entry date (₹) | 10.30 | 10.00 | 10.10 |
| Dividend Received upto 31-3-2016 (₹) | 2,850 | 4,500 | NIL |
| NAV as on 31-3-2016 (₹) | 10.25 | 10.15 | 10.00 |

Assume 1 year = 365 days.

Show the amount of rupees upto two decimal points.

You are required to find out the effective yield (upto three decimal points) on per annum basis in respect of each of the above three Mutual Fund (MF) schemes upto 31-3-2016.

(d) A Ltd. has issued convertible bonds, which carries a coupon rate of 14%. Each bond is convertible into 20 equity shares of the company A Ltd. The prevailing interest rate for similar credit rating bond is 8%. The convertible bond has 5 years maturity. It is redeemable at par at ₹ 100. 5

The relevant present value table is as follows :

| **Present values** | $t_1$ | $t_2$ | $t_3$ | $t_4$ | $t_5$ |
|---|---|---|---|---|---|
| $PVIF_{0.14, t}$ | 0.877 | 0.769 | 0.675 | 0.592 | 0.519 |
| $PVIF_{0.08, t}$ | 0.926 | 0.857 | 0.794 | 0.735 | 0.681 |

You are required to estimate :

(Calculations be made upto 3 decimal places)

(i) current market price of the bond, assuming it being equal to its fundamental value,

(ii) minimum market price of equity share at which bond holder should exercise conversion option; and

(iii) duration of the bond.

**NAM** **Marks**

2. (a) LMN Ltd. is an export oriented business house based in Mumbai. The Company invoices in customer's currency. The receipt of US $ 6,00,000 is due on 1st September, 2016. **8**

Market information as at 1st June 2016 is :

| **Exchange Rates** | **US $ / ₹** | **Exchange Rates** | **US $ / ₹** | **Contract Size** |
|---|---|---|---|---|
| Spot | 0.01471 | Currency Futures | | |
| 1 Month Forward | 0.01464 | June | 0.01456 | ₹ 30,00,000 |
| 3 Months Forward | 0.01458 | September | 0.01449 | |

| | Initial Margin (₹) | Interest Rates in India % |
|---|---|---|
| June | 12,000 | 8.00 p.a. |
| September | 16,000 | 8.50 p.a. |

On 1st September, 2016, the spot rate US $/₹ is 0.01461 and currency futures rate is US $/₹ 0.01462.

It may be assumed that variation in Margin would be settled on the maturity of the futures contract.

Which of the following methods would be most advantageous for LMN Ltd :

(i) using Forward Contract,

(ii) using Currency Futures; and

(iii) not hedging Currency Risks

Show the calculations and comment.

**NAM**

Marks

(b) On 10th July, an importer entered into a forward contract with bank for US$ 50,000 due on 10th September at an exchange rate of ₹ 66.8400. The bank covered its position in the interbank market at ₹ 66.6800. **8**

How the bank would react if the customer requests on 20th September :

(i) to cancel the contract ?

(ii) to execute the contract ?

(iii) to extend the contract with due date to fall on 10th November ?

The exchange rates for US$ in the interbank market were as below :

| | | **10th September** | **20th September** |
|---|---|---|---|
| Spot | US$ 1 = | 66.1500/1700 | 65.9600/9900 |
| Spot/September | | 66.2800/3200 | 66.1200/1800 |
| Spot/October | | 66.4100/4300 | 66.2500/3300 |
| Spot/November | | 66.5600/6100 | 66.4000/4900 |

Exchange margin was 0.1% on buying and selling.

Interest on outlay of funds was 12% p.a.

You are required to show the calculations to :

(i) cancel the Contract,

(ii) execute the Contract, and

(iii) extend the Contract as above.

Marks

3. (a) Details about portfolio of shares of an investor is as below : **8**

| Shares | No. of shares (lakh) | Price per share | Beta |
|---|---|---|---|
| A Ltd. | 3.00 | ₹ 500 | 1.40 |
| B Ltd. | 4.00 | ₹ 750 | 1.20 |
| C Ltd. | 2.00 | ₹ 250 | 1.60 |

The investor thinks that the risk of portfolio is very high and wants to reduce the portfolio beta to 0.91. He is considering two below mentioned alternative strategies :

(i) Dispose off a part of his existing portfolio to acquire risk free securities, or

(ii) Take appropriate position on Nifty Futures which are currently traded at ₹ 8125 and each Nifty points is worth ₹ 200.

You are required to determine :

(1) portfolio beta,

(2) the value of risk free securities to be acquired,

(3) the number of shares of each company to be disposed off,

(4) the number of Nifty contracts to be bought/sold; and

(5) the value of portfolio beta for 2% rise in Nifty.

(b) The returns and market portfolio for a period of four years are as under : **8**

| Year | % Return of Stock B | % Return on Market Portfolio |
|---|---|---|
| 1 | 10 | 8 |
| 2 | 12 | 10 |
| 3 | 9 | 9 |
| 4 | 3 | –1 |

For stock B, you are required to determine :

(i) characteristic line; and

(ii) the Systematic and Unsystematic risk.

NAM Marks

4. (a) Mr. Abhishek is interested in investing ₹ 2,00,000 for which he is considering following three alternatives : **8**

(i) Invest ₹ 2,00,000 in Mutual Fund X (MFX)

(ii) Invest ₹ 2,00,000 in Mutual Fund Y (MFY)

(iii) Invest ₹ 1,20,000 in Mutual Fund X (MFX) and ₹ 80,000 in Mutual Fund Y (MFY)

Average annual return earned by MFX and MFY is 15% and 14% respectively. Risk free rate of return is 10% and market rate of return is 12%.

Covariance of returns of MFX, MFY and market portfolio Mix are as follow :

| | MFX | MFY | Mix |
|---|---|---|---|
| MFX | 4.800 | 4.300 | 3.370 |
| MFY | 4.300 | 4.250 | 2.800 |
| M | 3.370 | 2.800 | 3.100 |

You are required to calculate :

(i) variance of return from MFX, MFY and market return,

(ii) portfolio return, beta, portfolio variance and portfolio standard deviation,

(iii) expected return, systematic risk and unsystematic risk; and

(iv) Sharpe ratio, Treynor ratio and Alpha of MFX, MFY and Portfolio Mix

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Marks

(b) KLM Ltd. requires ₹ 15,00,000 for a new project. **8**

Useful life of project is 3 years.

Salvage value – NIL.

Depreciation is ₹ 5,00,000 p.a.

Given below are projected revenues and costs (excluding depreciation) ignoring inflation :

| **Year→** | **1** | **2** | **3** |
|---|---|---|---|
| Revenues in ₹ | 10,00,000 | 13,00,000 | 14,00,000 |
| Costs in ₹ | 5,00,000 | 6,00,000 | 6,50,000 |

Applicable tax rate is 35%. Assume cost of capital to be 14% (after tax). The inflation rates for revenues and costs are as under :

| **Year** | **Revenues %** | **Costs %** |
|---|---|---|
| 1 | 9 | 10 |
| 2 | 8 | 9 |
| 3 | 6 | 7 |

PVF at 14%, for 3 years = 0.877, 0.769 and 0.675

Show amount to the nearest rupee in calculations.

You are required to calculate net present value of the project.

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Marks

5. (a) Projected sales for the next year of Z Ltd. is ₹ 1000 Cr. The company manages its accounts receivables internally. Its present annual cost of sales ledger administration is ₹ 11 Cr. The company finances its investment on debtors through a mix of bank credit and own long term funds in the ratio of 60 : 40. Current cost of bank credit and long term funds are 10% and 12% respectively. The past experience indicates that bad debt losses are 1.5% on total sales. **8**

The company has a credit policy of 2/10, net 30. On an average, 40% of receivables are collected within the discount period and rest are collected 70 days after the invoice date. Over the years, gross profit is maintained at 20% and the same is expected to be continued in future.

To enable the management focus on promotional activities and get rid of escalating cost associated with in house management of debtors, the company is considering the possibility of availing the services of Fairgrowth Factors Ltd. for managing receivables of the company.

According to the proposal of the factor, it would pay advance to the tune of 85% of receivables with 20% interest and 81% of receivables with 21% interest for the recourse and non-recourse agreements respectively. The proposal provides for guaranteed payment within 30 days from the date of invoice. The factoring commission would be 4% without recourse and 2% with recourse.

If the company goes for the factoring arrangement, the staff would be under burdened and concentrate more on promotional activities and consequently additional sales of ₹ 100 Cr. would be achieved. Assume that all sales of the company are credit sales and the year is of 360 days. You are required to :

(i) calculate cost of in house management of receivables,

(ii) compute cost of Fairgrowth Factors Ltd. proposal (with recourse and without recourse),

(iii) calculate net benefits under recourse factoring and non-recourse factoring; and

(iv) decide the best option for the company.

Marks

(b) A company is considering hedging its foreign exchange risk. It has made a purchase on 1st July, 2016 for which it has to make a payment of US$ 60,000 on December 31, 2016. The present exchange rate is 1 US $ = ₹ 65. It can purchase forward 1 $ at ₹ 64. The company will have to make an upfront premium @ 2% of the forward amount purchased. The cost of funds to the company is 12% per annum. **8**

In the following situations, compute the profit/loss the company will make if it hedges its foreign exchange risk with the exchange rate on 31st December, 2016 as :

(i) ₹ 68 per US $.

(ii) ₹ 62 per US $.

(iii) ₹ 70 per US $.

(iv) ₹ 65 per US $.

6. (a) XN Ltd. reported a profit of ₹ 100.32 lakhs after 34% tax for the financial Year 2015-2016. An analysis of the accounts reveals that the income included extraordinary items of ₹ 14 lakhs and an extraordinary loss of ₹ 5 lakhs. The existing operations, except for the extraordinary items, are expected to continue in future. Further, a new product is launched and the expectations are as under : **8**

| Particulars | Amount ₹ in lakhs |
|---|---|
| Sales | 70 |
| Material Costs | 20 |
| Labour Costs | 16 |
| Fixed Costs | 10 |

The company has 50,00,000 Equity Shares of ₹ 10 each and 80,000, 9% Preference Shares of ₹ 100 each with P/E Ratio being 6 times.

You are required to :

(i) compute the value of the business. Assume cost of capital to be 12% (after tax) and

(ii) determine the market price per equity share.

Marks

(b) The municipal corporation of a city with mass population is planning to construct a flyover that will replace the intersection of two busy highways X and Y. Average traffic per day is 10,000 vehicles on highway X and 8,000 vehicles on highway Y. 70% of the vehicles are private and rest are commercial vehicles. The flow of traffic across and between aforesaid highways is controlled by traffic lights. Due to heavy flow, 50% of traffic on each of the highways is delayed. Average loss of time due to delay is 1.3 minute in highway X and 1.2 minute in highway Y. The cost of time delayed is estimated to be ₹ 80 per hour for commercial vehicle and ₹ 30 for private vehicle. **8**

The cost of stop and start is estimated to be ₹ 1.20 for commercial vehicle and ₹ 0.80 for private vehicle. The cost of operating the traffic lights is ₹ 80,000 a year. One policeman is required to be posted for 3 hours a day at the crossing which costs ₹ 150 per hour.

Due to failure to obey traffic signals, eight fatal accidents and sixty non-fatal accidents occurred in last 4 years. On an average, insurance settlements per fatal and non-fatal accidents are ₹ 5,00,000 and ₹ 15,000 respectively.

To eliminate the delay of traffic and the accidents caused due to traffic light violations, the flyover has been designed. It will add a quarter of kilometer to the distance of 20% of total traffic. No posting of policeman will be required at the flyover. The flyover will require investment of ₹ 3 Cr. Extra maintenance cost would be ₹ 70,000 a year.

The incremental operating cost for commercial vehicle will be ₹ 5 per km and ₹ 2 for non-commercial vehicle. Expected economic life of the flyover is 30 years having no salvage value. The cost of capital for the project is 8%. (corresponding capital recovery rate is 0.0888).
You are required to calculate :

(i) total net benefits to users,

(ii) annual cost to the state; and

(iii) benefit cost ratio

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Marks

7. Write short notes on any **four** of the following : **4×4 =16**

(a) What is cross border leasing ? State its advantages.

(b) What are the rigidities in the Indian money market ?

(c) What is exchange traded fund ? What are its advantages ?

(d) What are the problems for mergers and acquisitions in India ?

(e) What makes an organization sustainable ? State the specific steps.

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