

Roll No.

Total No. of Questions – 7

Total No. of Printed Pages – 7

Time Allowed – 3 Hours

MAY 2012

Maximum Marks – 100

TIP

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 has not opted for Hindi medium, his/her answers in Hindi will not be valued.

Question No. 1 is compulsory.

Attempt any five questions from the remaining six questions.

Working notes should form part of the answer.

- Marks**
1. (a) LMN & Co. plans to issue Commercial Paper (CP) of ₹ 1,00,000 at a price of ₹ 98,000. 5
- Maturity Period : 4 Months
- Expenses for issue of CP are :
- (i) Brokerage 0.10%
- (ii) Rating Charges 0.60% and
- (iii) Stamp Duty 0.15%
- Find the effective interest rate per annum and the cost of Fund.
- (b) On 31-8-2011, the value of stock index was ₹ 2,200. The risk free rate of return has been 8% per annum. The dividend yield on this Stock Index is as under : 5

Month	Dividend paid
January	3%
February	4%
March	3%
April	3%
May	4%
June	3%

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July	3%
August	4%
September	3%
October	3%
November	4%
December	3%

Assuming that interest is continuously compounded daily, find out the future price of contract deliverable on 31-12-2011.

Given : $e^{0.01583} = 1.01593$

(c) The price of a bond just before a year of maturity is \$ 5,000. Its redemption value is \$ 5,250 at the end of the said period. Interest is \$ 350 p.a. The Dollar appreciates by 2% during the said period. Calculate the rate of return. **5**

(d) A company is long on 10 MT of copper @ ₹ 474 per kg (spot) and intends to remain so for the ensuing quarter. The standard deviation of changes of its spot and future prices are 4% and 6% respectively, having correlation coefficient of 0.75. **5**

What is its hedge ratio ? What is the amount of the copper future it should short to achieve a perfect hedge ?

2. (a) A machine used on a production line must be replaced at least every four years. **10**
Costs incurred to run the machine according to its age are :

Age of the Machine (years)

	0	1	2	3	4
Purchase price (in ₹)	60,000				
Maintenance (in ₹)		16,000	18,000	20,000	20,000
Repair (in ₹)		0	4,000	8,000	16,000
Scrap Value (in ₹)		32,000	24,000	16,000	8,000

Future replacement will be with identical machine with same cost. Revenue is unaffected by the age of the machine. Ignoring inflation and tax, determine the optimum replacement cycle. PV factors of the cost of capital of 15% for the respective four years are 0.8696, 0.7561, 0.6575 and 0.5718.

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(b) In December, 2011 AB Co.'s share was sold for ₹ 146 per share. A long term earnings growth rate of 7.5% is anticipated. AB Co. is expected to pay dividend of ₹ 3.36 per share. 6

(i) What rate of return an investor can expect to earn assuming that dividends are expected to grow along with earnings at 7.5% per year in perpetuity ?

(ii) It is expected that AB Co. will earn about 10% on book Equity and shall retain 60% of earnings. In this case, whether, there would be any change in growth rate and cost of Equity ?

3. (a) LMN Ltd is considering merger with XYZ Ltd. LMN Ltd's shares are currently traded at ₹ 30.00 per share. It has 3,00,000 shares outstanding. Its earnings after taxes (EAT) amount to ₹ 6,00,000. XYZ Ltd has 1,60,000 shares outstanding and its current market price is ₹ 15.00 per share and its earnings after taxes (EAT) amount to ₹ 1,60,000. The merger is decided to be effected by means of a stock swap (exchange). XYZ Ltd has agreed to a proposal by which LMN Ltd will offer the current market value of XYZ Ltd's shares. 8

Find out :

(i) The pre-merger earnings per share (EPS) and price/earnings (P/E) ratios of both the companies.

(ii) If XYZ Ltd's P/E Ratio is 9.6, what is its current Market Price ? What is the Exchange Ratio ? What will LMN Ltd's post-merger EPS be ?

(iii) What should be the exchange ratio, if LMN Ltd's pre-merger and post-merger EPS are to be the same ?

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- (b) DEF Ltd has been regularly paying a dividend of ₹ 19,20,000 per annum for several years and it is expected that same dividend would continue at this level in near future. There are 12,00,000 equity shares of ₹ 10 each and the share is traded at par. 8

The company has an opportunity to invest ₹ 8,00,000 in one year's time as well as further ₹ 8,00,000 in two year's time in a project as it is estimated that the project will generate cash inflow of ₹ 3,60,000 per annum in three year's time which will continue for ever. This investment is possible if dividend is reduced for next two years.

Whether the company should accept the project ? Also analyze the effect on the market price of the share, if the company decides to accept the project.

4. (a) Indira has a fund of ₹ 3 lacs which she wants to invest in share market with rebalancing target after every 10 days to start with for a period of one month from now. The present NIFTY is 5326. The minimum NIFTY within a month can at most be 4793.4. She wants to know as to how she should rebalance her portfolio under the following situations, according to the theory of Constant Proportion Portfolio Insurance Policy, using "2" as the multiplier : 8

- (1) Immediately to start with.
- (2) 10 days later—being the 1st day of rebalancing if NIFTY falls to 5122.96.
- (3) 10 days further from the above date if the NIFTY touches 5539.04.

For the sake of simplicity, assume that the value of her equity component will change in tandem with that of the NIFTY and the risk free securities in which she is going to invest will have no Beta.

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(5)

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- (b) X Ltd has an internal rate of return @ 20%. It has declared dividend @ 18% on its equity shares, having face value of ₹ 10 each. The pay out ratio is 36% and Price Earning Ratio is 7.25. Find the cost of equity according to Walter's Model and hence determine the limiting value of its shares in case the payout ratio is varied as per the said model. 8

5. (a) NP and Co. has imported goods for US \$ 7,00,000. The amount is payable after three months. The company has also exported goods for US \$ 4,50,000 and this amount is receivable in two months. For receivable amount a forward contract is already taken at ₹ 48.90. 8

The market rates for ₹ and Dollar are as under :

Spot	₹ 48.50/70
Two months	25/30 points
Three months	40/45 points

The company wants to cover the risk and it has two options as under :

- (A) To cover payables in the forward market and
(B) To lag the receivables by one month and cover the risk only for the net amount. No interest for delaying the receivables is earned. Evaluate both the options if the cost of Rupee Funds is 12%. Which option is preferable ?

- (b) A has portfolio having following features : 8

Security	β	Random Error σ_{ei}	Weight
L	1.60	7	0.25
M	1.15	11	0.30
N	1.40	3	0.25
K	1.00	9	0.20

You are required to find out the risk of the portfolio if the standard deviation of the market index (σ_m) is 18%.

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P.T.O.

(6)

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6. (a) Sumana wanted to buy shares of EIL which has a range of ₹ 411 to ₹ 592 a month later. The present price per share is ₹ 421. Her broker informs her that the price of this share can sore up to ₹ 522 within a month or so, so that she should buy a one month CALL of EIL. In order to be prudent in buying the call, the share price should be more than or at least ₹ 522 the assurance of which could not be given by her broker.
- Though she understands the uncertainty of the market, she wants to know the probability of attaining the share price ₹ 592 so that buying of a one month CALL of EIL at the execution price of ₹ 522 is justified. Advice her. Take the risk free interest to be 3.60% and $e^{0.036} = 1.037$.
- (b) A Mutual Fund Co. has the following assets under it on the close of business as on :

Company	No. of shares	1 st February 2012	2 nd February 2012
		Market price per share	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 2012.

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Marks

7. Write short notes on any **four** of the following :

4×4

=16

- (a) Zero coupon bonds
 - (b) Interest swap
 - (c) Inter-Bank Participation Certificate
 - (d) Meaning and Advantages of Netting
 - (e) Nostro, Vostro and Loro Accounts
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TIP