*Name* : ..............................................................

*Roll No.* : ..........................................................

*Invigilator's Signature :* ..............................................

**CS/MBA(N)/SEM-3 FT & 5 PT/FM-302/2011-12**

# 2011

# CORPORATE FINANCE

*Time Allotted* : 3 Hours *Full Marks* : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

## GROUP – A
## ( Multiple Choice Type Questions )

1. Choose the correct alternatives for any *ten* of the following :

$10 \times 1 = 10$

i) Divestiture is
   a) closing down a plant
   b) sick unit revival process
   c) selling of assets or a division to the higher bidder
   d) none of these.

ii) Stock split represents
   a) reduction of price of each share
   b) firm gives each stock holder in the firm additional shares
   c) used at the time of forming and subsidiary company
   d) reduction of total number of shares of a company.

iii) Conglomerate merger is a combination in which a firm established in one industry combines with a firm which is

a) related to the industry

b) not related to the industry

c) sick and will be closed down in near future

d) producing same product but facing shortage of raw material.

iv) In a stock split, the par value of the share is

a) increased b) reduced

c) same d) partially increased.

v) Agency costs can be reduced by

a) monitoring the manager's effort and actions

b) giving the manager the right incentives

c) both (a) and (b)

d) proper training to managers.

vi) An investor gets 15 per cent return from *X*'s stock. The inflation rate is 7 per cent. His real rate of return is

a) 7·48 b) 8·00

c) 2·5 d) 7·84.

vii) Sensitivity analysis allows an analyst to consider the effect of changing

a) many related variables at a time

b) one variable at a time

c) capital investment and interest rate

d) none of these.

viii) EMH stands for

a) Efficient Market Hypothesis

b) Effluent Market Hypothesis

c) Emerging Market Hypothesis

d) none of these.

ix) Spin-off means

a) a new independent company created by detaching part of a parent company's assets and operations

b) a new independent company created by detaching part of a parent company's assets and liabilities

c) an independent company is merged with another company

d) a fictitious relationship between a holding company and its subsidiary company.

x) LBO stands for

a) Leveraged Buy Outs

b) London Bank Operation

c) Leveraged Buying Option

d) none of these.

xi) IRR is

a) that rate where PV of cash inflows are greater than PV of cash outflows

b) the rate where cash inflows are exactly equal to cash outflows

c) that rate where PV of cash inflows are exactly equal to PV of cash outflows

d) that rate where cash inflows are greater than cash outflows.

xii) Company *A* and Company *B* has the same total assets, operating income (EBIT), tax rate and business risk. Company *A*, however has a much higher debt ratio than Company *B*. Company *A*'s basic earning power (BEP) exceeds its cost of debt financing ( $r_d$ ). Which of the following statements is most correct ?

a) Company *A* has a higher return on assets (ROA) than Company *B*

b) Company *A* has a higher times interest earned (TIE) ratio than Company *B*

c) Company *A* has higher return on equity (ROE) than Company *B* and its risk, as measured by the standard deviation of ROE, also higher than Company *B*

d) All of these statements are correct.

## GROUP – B
### ( Short Answer Type Questions )

Answer any *three* of the following $3 \times 5 = 15$

2. What is the difference between maximizing stock holder wealth and stock prices ?
3. Supreme Infrastructure would like to replace an old generator which has a book value of Rs. 50,000 and a remaining life of 10 years and could be sold for Rs. 15,000 net of capital gains taxes, right now. It would be replaced with a new generator that costs Rs. 1,50,000 and has a depreciable life of 10 years, and annual operating costs are Rs. 40,000 lower than the old generator. Assuming straight-line depreciation for the old and the new generators, a 40% tax-rate, and no salvage value on either generator in 10 years. Is the replacement decision a good decision financially ?
4. Explain Compound Options and Rainbow Options with examples.
5. "Debt adds discipline to the investment process." Explain.
6. Remac Software is a small software firm in high growth. The firm is all equity financed. In the current year, the firm earned \$20 million in the after-tax operating income on capital invested of \$60 million. The firm's cost of equity is 15%. If it is assumed that the firm will be able to grow its economic value added 15% a year for the next five years and that there will be no excess returns after the year 5, estimate value of the firm. How much of this value comes from EVA and how much from capital invested ?

**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following. $3 \times 15 = 45$

7. *ABC* Ltd. has been producing a chemical product by using machine *Z* for last two years. Now the management of the company is thinking to replace this machine either by *X* machine or by *Y* machine. The following details are furnished :

| **Particulars** | **Machine *Z*** | **Machine *X*** | **Machine *Y*** |
|---|---|---|---|
| Book value | Rs. 1,00,000 | --- | --- |
| Current resale value | Rs. 1,10,000 | --- | --- |
| Purchase price | --- | Rs. 1,80,000 | Rs. 2,00,000 |
| Annual Fixed cost including depreciation | Rs. 92,000 | Rs. 1,08,000 | Rs. 1,32,000 |
| Variable running costs (including labour) per unit | Rs. 3.00 | Rs. 1.50 | Rs. 2·50 |
| Production per hour (units) | 8 | 8 | 12 |
| Sales units | 16000 | 16000 | 24000 |

You are also provided with the following details :

Selling price per unit — Rs. 20, Cost of materials per unit — Rs. 10, Annual operating hours — 2000 hours, Working life of each of three machines — 5 years. Salvage value of machine *Z* — Rs. 10,000; *X* — Rs. 15,000; *Y* — Rs. 18,000. The company charges depreciation using straight line method. It is anticipated that an additional cost of Rs. 8,000 p.a. would be incurred on special advertising to sell extra output of machine *Y*. Assume tax rate is 50% and cost of capital 10%.

You are required to analyze the feasibility of the proposal (using NPV method) and make recommendations.

8. Bharat Petroleum Corporation Ltd. has under consideration, two mutually exclusive projects $X$ and $Y$ for increasing its plant's capacity. Each project requires net investment of Rs. 10,00,000. Each project has an economic life of 10 years. The company's cost of capital is 10%. The management of the company has made the following pessimistic, most likely and optimistic estimates of the annual cash inflows associated with each project.

| **Particulars** | **Estimated annual cash inflows** | |
|---|---|---|
| | **Project *A*** | **Project *B*** |
| Pessimistic | Rs. 2,00,000 | Rs. 1,00,000 |
| Most likely | Rs. 2,50,000 | Rs. 2,50,000 |
| Optimistic | Rs. 3,00,000 | Rs. 5,00,000 |

Find out which project is more risky by adopting sensitivity analysis method.

9. A firm has an investment proposal, requiring an outlay of Rs. 8,00,000. The investment proposal is expected to have 2 year's economic life with no salvage value. In Year I, there is a 0·40 probability that cash inflow after tax will be Rs. 5,00,000 and 0·60 probability that cash inflow after tax will be Rs. 6,00,000. The probabilities assigned to cash inflows after tax for the Year II are as follows :

| **The Cash flow Year-I** | Rs. 5,00,000 | | Rs. 6,00,000 | |
|---|---|---|---|---|
| **Year-II** | **Cash Inflow** | **Probability** | **Cash Inflow** | **Probability** |
| | Rs. 2,40,000 | 0·20 | Rs. 4,00,000 | 0·40 |
| | Rs. 3,20,000 | 0·30 | Rs. 5,00,000 | 0·50 |
| | Rs. 4,40,000 | 0·50 | Rs. 6,00,000 | 0·10 |

The firm uses a 10% discount rate for this type of investment.

a) Construct a decision tree for the proposed investment project.

b) What NPV will the project yield if worst outcome is realized ? What is the probability of occurrence of this NPV ?

c) What will be the best outcome and what will be the probability of that occurrence ?

d) Will the project be accepted ?

10. a) Briefly discuss the main reasons behind acquisitions and takeovers. 5

b) It is given that Company *A* will acquire Company *B* with shares of common stock. The financial details are given hereunder :

| **Particulars** | **Company *A* (Rs.)** | **Company *B* (Rs.)** |
|---|---|---|
| Present Earnings | 20 million | 5 million |
| EPS | 4·00 | 2·50 |
| Market Price | 64 | 30 |
| P/E | 16 | 12 |

It is given that Company *B* has agreed on an offer of Rs. 35 in common stock of Company *A* Analyze the merger proposal for both companies. 10

11. Write short notes on any *three* of the following : 3 × 5

a) Real Option

b) MVA (Market Value Added)

c) Buy back of shares

d) Green Shoe Option

e) Capital Rationing.

12. a) There are two firms, Alpha Metal Ltd. and Beta Metal Ltd. They are similar in all respects except that Alpha Metal Ltd. is unlevered while Beta Metal Ltd. has Rs. 20 crores of 11% debentures outstanding. Both companies have a net operating income of Rs. 5 crores each. The tax rate applicable to both the companies is 35%. The discount rate for both the companies is 10%.

You are required to

i) calculate the value of both the firms considering Modigliani-Miller position on leverage holds good.

ii) show the arbitrage process, assuming Modigliani-Miller position holds true. The current market value of equity of Beta Metal Ltd. is Rs. 25 crores. Clearly state the assumption(s) made. 8

b) IMI Foods Ltd. is in view of introducing a new potato chips with high protein and very low fat content in May, 2012. The net present value of the project is negative and is estimated at Rs. 50 crores. But the company's head for the product had a view that the product will unlock the opportunities for the next generation of potato chips, which are expected to be of zero fat content (ZFC). The estimated NPV of the ZFC potato chips project is Rs. 325 crore. Investment decision must be made for the same in May, 2014.

The other details of the ZFC project are given below :

| | |
|---|---|
| Investment required in May, 2014 | Rs. 1250 crore |
| PV of cash flows expected (Beginning from May, 2008) | Rs. 925 crore |
| Standard deviation for comparable projects | 45 per cent |
| Required rate of return for the typical potato chips project | 18 per cent |
| Interest rate | 8 per cent |

You are required to help the company to decide on the investment. 7

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