

value of the machine at the end of the third year is estimated to be Rs.6,000 if the purchase alternative is chosen. The firm is in a 50 percent tax bracket and its before tax cost of debt is 9 percent. Should the firm purchase or lease the machine? [10]

Ans: PV of leasing = 9,071.70; PV of purchasing = Rs. 6,443.40; Purchase the machine

27. 2058 Q.No. 4

The National Construction Company is faced with the decision of whether it should purchase or lease a new forklift truck. The truck can be leased on an eight year contract for Rs.4,641.44 a year or it can be purchased for Rs.26,000. The salvage value of the truck after eight years is Rs.2,000. The company uses straight-line depreciation. The discount rate applied is its after tax cost of debt. The company can borrow at 15 percent and has a 40 percent marginal tax rate and a 12 percent cost of capital.

- Analyze the lease versus purchase decisions using the firm's after tax cost of debt as the discount factor.
- Discuss your results.

Ans: (a) PV of leasing = Rs. 15,413.67; PV of purchasing = Rs. 18,354.58 (b) Lease the truck. [10]

MBA

THEORETICAL QUESTIONS

28. 2052 Q.No. 3

What is the significance of a term loan? Describe its advantages and disadvantages. [20]

29. 2051 Q.No. 4

"Accounting treatment of leases has undergone substantial changes over time." Discuss. [10]

30. 2050 Q.No. 3

Explain the various forms of lease financing. [10]

31. 2048 Q.No. 6 b

Discuss the factors influencing leasing versus owning decisions. [10]

32. 2046 Q.No. 2

What are the characteristics of term loan? Describe the important protective convenience of a term loan agreement. [20]

Write short notes on:

33. 2058 Q.No. 10 b

Repayment schedule [10]

34. 2057 Q.No. 10 b/2044 Q.No. 10 c

Leverage leasing [10]

35. 2054 Q.No. 10 c

Lease versus purchase decisions [10]

36. 2053 Q.No. 10 b

Operating leases versus financial leases [10]

37. 2052 Q.No. 10 a

Accounting treatment of leases [10]

38. 2046 Q.No. 10 b

Capital and operating leases [10]

NUMERICAL QUESTIONS

39. 2060 Q.No. 4

- The Kathmandu Machinery Company (KMC) produces industrial machines, which have five-year lives. Clarkton is willing to either sell the machines for Rs. 30,000 or lease them at a rental rate, because of competitive factors, yields an after-tax return to KMC of 6 percent—its cost of capital. What is the company's competitive lease-rental rate? (Assume straight-line depreciation, zero salvage value, and an effective corporate tax rate of 40 percent.) [5]
- The Pokhara Machine Shop (PMS) is contemplating the purchase of a machine exactly like those rented by KMC. The machine will produce net benefits of Rs.10,000 per year. PMS can buy the machine for Rs 30,000 or rent it from KMC at the competitive lease-rental rate. PMS's

cost of capital is 12 percent, its cost of debt 10 percent, and $T = 40$ percent. Which alternative is better for PMC? [5]

- c. If KMC's cost of capital is 9 percent and competition exists among lessors, solve for the new equilibrium rental rate. Will Stockton's decision be altered? [5]

Ans: (a) $L_1 = \text{Rs. } 7,869.718$ (b) PV of leasing = Rs. 19,890 PV of purchasing = 19,890 lease
(c) $L_t = \text{Rs. } 8,854$ PV of leasing Rs. 22,377

40. 2059 Q.No. 4

A certain machine could be either purchased for Rs.15,000 or leased for 3 years. The lease payments would be Rs. 6,600 per year to be paid at the end of years, 1,2,and 3. If the machine were purchased, annual depreciation charges would be Rs.3,000, and the machine would be financed with a 3-year term loan at 9 percent requiring equal end of year payments of Rs.5,926 each. The annual lease payments include a maintenance contract on the machine over the lease's term. The firm estimates that, without the maintenance contract, the annual maintenance expense related to the machine would be Rs.600 per year. The after tax salvage value of the machine at the end of the third year is estimated to be Rs.6,000 if the purchase alternative is chosen. The firm is in a 50 percent tax bracket and its before tax cost of debt is 9 percent. Should the firm purchase or lease the machine?

Ans: PV of leasing = Rs. 9,071.70; PV of purchasing = Rs. 6,443.43; Purchase the machine

41. 2058 Q.No. 6

A certain machine could be either purchased for Rs.15,000 or leased for 3 years. The lease payments would be Rs. 6,600 per year to be paid at the end of years, 1,2,and 3. If the machine were purchased, annual depreciation charges would be Rs.3,000, and the machine would be financed with a 3-year term loan at 9 percent requiring equal end of year payments of Rs.5,926 each. The annual lease payments include a maintenance contract on the machine over the lease's term. The firm estimates that, without the maintenance contract, the annual maintenance expense related to the machine would be Rs.600 per year. The after tax salvage value of the machine at the end of the third year is estimated to be Rs.6,000 if the purchase alternative is chosen. The firm is in a 50 percent tax bracket and its before tax cost of debt is 9 percent. Should the firm purchase or lease the machine? [20]

Ans: PV of leasing = Rs. 9,071.70; PV of purchasing = Rs. 6,443.43; Purchase the machine

42. 2057 Q.No. 6

Consider the following information given below:

Cost of the asset	Rs.200,000
Lease payment	Rs.27,598
Life of the asset	10 years
Before tax cost of debt	10%
Applicable tax rate	50%
Investment tax credit	Rs.20,000

Method of depreciation followed is straight-line depreciation.

How do you analyze lease versus purchase decision using internal rate of return analysis? [20]

Ans: IRR = Percentage cost of leasing = 5.438%, Purchase the truck because $10\% (1 - 0.50) < 5.438\%$

43. 2056 Q.No. 6

From the information given below, how do you make lease versus purchase decision using internal rate of return analysis: [20]

Cost of the asset	Rs.220,000
Lease payment	28,000
Life of the asset	10 years
Before tax cost of debt	10 %
Applicable tax rate	40%
Investment tax credit	Rs.20,000
Method of depreciation followed is straight line depreciation	

Ans: 4.77%

44. 2052 Q.No. 6

- a. The CL Company (CLCO) produces machines, which have five-year of life. CLCO is willing to either sell the machines for Rs.60,000 or to lease them at a rental that, because of competitive factors, yields an after-tax return to CLCO of 9 percent – its cost of capital. What is the Company's competitive lease-rental rate? (Assume straight-line depreciation, zero salvage value, and an effective corporate tax rate of 40 percent.) [10]
- b. The ST Company (STCO) is contemplating the purchase of a machine exactly like those rented by CLCO. The machine will produce net benefits of Rs.20,000 per year. STCO can buy the machine for Rs.60,000 or rent it from CLCO at the competitive lease-rental rate. STCO's cost of capital is 16 percent, its cost of debt 15 percent, and tax rate = 40 percent. Which alternative is better for STCO? Note that the discount rate applied by the company is its after tax cost of debt. [10]
- c. If CLCO's cost of capital is 12 percent and competition exists among lessors, solve for the new equilibrium rental rate. Will STCO's decision be altered? [10]
- Ans: (a) Rs. 17,709 (b) Pv of leasing = Rs. 41,329.62; PV of purchasing = Rs. 41,329.44; Indifferent (c) Pv of leasing = Rs. 42,697.41 Buy the machine

45. 2051 Q.No. 6 a

A certain steel company seeks to acquire the use of a rolling machine at the lowest possible cost. The choice is either to lease one at Rs.21,890 annually or to purchase one for Rs.54,000. The company's cost of capital is 14 percent, its cost of debt is 10 percent, and its tax rate is 40 percent. The machine has an economic life of six years and no salvage value. The company uses straight-line depreciation. The discount rate applied is the after tax cost of debt. Which is the less costly method of financing? [10]

Ans: PV of leasing = Rs. 64,583.82; PV of purchase = Rs. 36,297.68; Purchase the machine

46. 2048 Q.No. 6 a

The NEL Company is confronted with the decision of whether the company it should purchase or lease a new Hino truck. The truck can be leased on an eight year contract for Rs.4,978.22 a year, or it can be purchased for Rs.26,000. The salvage value of the truck after eight years is Rs.2,000. The company uses straight-line depreciation. The discount rate applied is after tax cost of debt. The company can borrow at 15 percent and has a 40 percent marginal tax rate and a 12 % cost of capital. Analyze lease versus purchase decision. [10]

Ans: PV of leasing = Rs. 16,532.07; PV of purchasing = Rs. 18,354.44

47. 2045 Q.No. 5

A Company is trying to decide between leasing and buying a new equipment. The company can lease the equipment for five years, making annual payments of Rs.16,378 per year or they can buy the equipment for Rs.50,000. At the end of fifth year, the equipment will have no salvage value. The firm's cost of capital is 10 percent with a before tax cost of debt of 8 percent. The company uses straight-line depreciation and has a 50 percent tax rate.

Analyze whether the company should lease or buy. Use the after tax cost of debt as a discount factor and obtain the result using schedules. [20]

Ans: PV of leasing = Rs. 36,455.79; PV of Purchasing = 27,740.92 Purchase a new equipment

48. 2044 Q.No. 5

Suppose that a machine could be either purchased for Rs.15,000 or leased for 3 years with an operating lease. The lease payments would be Rs.6,600 per year to be paid at the end of years 1, 2 and 3. The lease would be tax deductible. If the machine were purchased, annual depreciation charges would be Rs.3,000 per year, and the machine's purchase would be financed with a 3 year term loan at 9 percent requiring equal end of year payments of Rs.5,926 each. The annual lease payments include a maintenance contract on the machine over the lease's term. The firm estimates that, without the maintenance contract, the annual maintenance expenses related to the machine would be Rs.600 per year. The after tax salvage value of the machine at the end of the third year is estimated to be Rs.6,000 if the purchase alternative is chosen. The firm is in a 50 percent tax bracket, and all cash flows are to be discounted at the firm's cost of capital of 11 percent. Should the firm purchase or lease the machine? [20]

Ans: PV of leasing = Rs. 8,064.21; PV of purchasing = Rs. 5,993.84; Purchase the machine

49. 2041 Q.No. 5

A Tool Company is attempting to determine whether to lease or purchase a new conveyor system. The firm is in the 40 percent tax bracket and the after tax cost of debt is currently 6 percent. The terms of the lease and the purchase are given below:

Lease: Annual advance lease payments of Rs.19,744 are required over its four year life. The lease payment is one deductible for tax purposes until the service is actually received.

Purchase: The conveyor costing Rs.70,000 could be purchased. Straight-line depreciation and not salvage value would be used. The purchase would be financed with a Rs.70,000, 9 percent loan requiring four annual end of year payments of Rs.21,605.

- Calculate the after tax cash outflows associated with each alternative.
- Calculate the present value of each of these cash flow streams by using the after tax cost of debt.
- Which alternative would you recommend? Explain. [20]

Ans: (a) Rs. 19,744; 11,846.40; 11,846.40; 11,846.40 & after tax cash outflows: leasing (7,897.60) from year 0 to 4. Purchasing: Rs. 12,087; 12,638; 13,239; and Rs. 13,894 from year 1 to 4 respectively. (b) PV of leasing Rs. 45,153.74 PV of purchasing = Rs. 44,771.60 (c) Purchase the new convey system.

50. 2040 Q.No. 9

XYZ Company can lease an equipment for five years, making annual payments of Rs.4,095 per year at the end of each year or they can buy the equipment for Rs.12,500. At the end of five years, the equipment will have no salvage value. The firm's cost of capital is 12 percent and before tax cost of debt is 10 percent. The company uses straight-line depreciation and has a 40 percent tax rate.

Using schedules, suggest the appropriate alternative to the company. Use after tax cost of debt as the discount factor. [20]

Ans: PV of leasing = Rs. 10,349.87; PV of purchasing = Rs. 2,86.45, Purchase the equipment

4. COMMON STOCK FINANCING**MBS****THEORETICAL QUESTIONS****1. 2069 Old Q.No. 2a**

How do you evaluate the rights of common stocks holders? What differences you find between right issue and public offerings? Explain. [5]

2. 2065 Q.No. 2

Discuss the features and rights associated with common stocks. 10

3. 2064 Q.No. 1

Do you think that right shares are important in public limited companies as a source of long-term financing? Comment. [10]

4. 2064 Q.No. 2

Explain the features of common stock financing. [10]

5. 2061 Q.No. 1

Explain why agency costs would probably be more of a problem for a large publicly owned firm that uses both debt and equity capital than for a small unlevered-owner managed firm. [10]

Write short notes on:**6. 2070 Q.No. 8a/2068 Old Q.No. 6c/2068 Q.No. 8b/ 2061 Q.No. 6 a / 2059 Q.No. 6 b**

Venture capital [5]

7. 2070 Old Q.No. 6c / 2065 Q.No. 6 c / 2063 Q.No. 6 (b) / 2062 Q.No. 6 b

Pre-emptive rights [5]

NUMERICAL QUESTIONS**8. 2070 Q.No. 4**

The stock of the National Corporation is selling for Rs.50 per share. The company then issues rights to subscribe to one new share at Rs.40 for each five rights held.

- What is the theoretical value of a right when the stock is selling rights-on?

- b. What is the theoretical value of one share of stock when it goes ex-rights?
 c. What is the theoretical value of a right when the stock sells ex-rights at Rs.50?
 d. Rajesh Amatya has Rs.1,000 at the time National stock goes ex-rights at Rs.50 per share. He feels that the price of the stock will rise to Rs.60 by the time the rights expire. Compute his rate of return on his Rs.1,000 if he (1) buys National stock at Rs.50, or (2) buys the rights at the price computed in part c, assuming his price expectations are valid.
 e. Which investment will be more risky? [2+2+2+3+1]

Ans: (a) Rs 1.67 (b) Rs 48.33 (c) Rs.2 (d) (1) 20% (2) 100%

9. 2070 Old Q.No. 3

Standard Tea Company (STC) plans to raise an additional Rs.5 million through rising ferings. Current market price of the company is Rs.300. It has 100,000 shares outstanding. Stockholders are offered a new share at a price of Rs.200 each. You are asked to answer the following questions:

- a. How many new shares will have to be sold to raise required funds?
 b. How many rights will be required to purchase a new share?
 c. What will be theoretical value of a right?
 d. What will be ex-rights price?
 e. Vijay Khanal's total asset consist of 100 shares of STC and Rs.20,000 cash balance. Prepare statements of Mr. Khanal's total assets before rights offerings.
 f. Prepare statement showing Mr. Khanal's total assets after rights offerings for each of these courses of action, if he exercises all his rights. [1.5×5+2.5]

Ans: (a) 25,000 shares (b) 4 (c) Rs 20 (d) Rs 280 (e) Total wealth = Rs 50,000; (f) Total wealth = Rs 50,000

10. 2069 Q.No. 6

National Telecom has the following balance sheet and income statement:

Balance Sheet

Total assets	<u>Rs. 28 million</u>
Total debt (8%)	Rs. 14 million
Common stock (50,000 shares)	Rs. 8 million
Retained earnings	<u>Rs. 6 million</u>
Total Liabilities and capital	<u>Rs. 28 million</u>

Income Statement

Earning rate 20% on total assets	
Earning before interest and taxes:	Rs. 2,940,000
Interest on debt	<u>Rs. 840,000</u>
Income before taxes	2,100,000
Taxes (40%)	<u>840,000</u>
Earning after taxes	<u>1,260,000</u>

Earning per share	Rs. 25.20
Dividends per share (60% of earnings)	Rs. 15.12
Price earning ratio	20 times
Market price per share	Rs. 504

The company plans to raise an additional Rs. 9 million through a rights offering. The additional funds will continue to earn as above. The price earning ratio and dividend payout will continue as stated above. The 40 percent tax rate will remain in effect.

Assuming a subscription price of Rs. 30 a share:

- a. How many additional shares of stock will have to be sold?
 b. How many rights will be required to purchase one new share?
 c. What will be the new earnings per share?
 d. What will be the new market price per share?

- e. What will be the new dividend per share if the dividend payout ratio is maintained?
 f. Suppose you held 200 shares of the company before rights offering. After you exercise your rights, what is the net value of your position? [10]

Ans: a. 300,000 shares b. 0.16667 c. Rs. 10.766 d. Rs. 215.32 per share
 e. Rs. 6.4596 per share f. Rs. 97.72 per share

11. 2068 Q.No. 6

Lisa's total assets consist of 200 shares of Nepal Telecom and Rs 5,000 in cash. The company now offers stockholders one additional share at a price of Rs 100 for each four shares held. The current market price of the stock is Rs 200.

- a. Determine the value of each right.
 b. Prepare statements showing her total assets under each of the following conditions:
 i. Total assets before rights offering.
 ii. Total assets after offering if she exercises all her rights.
 iii. Total assets after offering if she sells all her rights.
 iv. Total assets after offering if she sells 140 rights and exercises 60 rights.
 v. Total assets after offering if she neither sells nor exercises the rights. [10]

Ans: (a) Rs 20 (b) (i) Rs. 45,000 (ii) Rs. 45,000 (iii) Rs. 45,000 (iv) Rs. 45,000 (v) Rs 41,000

12. 2068 Old Q.No. 5

Shree Rams' total assets consist of 1050 shares of Nabil Bank and Rs 150,000 in cash. Nabil now offers stockholders one additional share at a price of Rs 100 for each five shares held. Suppose the current market price of the stock is Rs 250.

- a. What is the value of each right?
 b. Prepare statements showing Shree Ram's total assets after the offering for each of these alternative courses of action.
 i. He exercises all his rights.
 ii. He sells all his rights.
 iii. He sells 900 rights and exercises 150 rights.
 iv. He neither sells nor exercises the rights. [10]

Ans: (a) Rs 25 (b) (i) Rs. 412,500 (ii) Rs. 412,500 (iii) Rs. 412,500 (iv) Rs 386,250

13. 2067 Q.No. 6 (Old)

The stock of the SWC Company is selling for Rs. 50 per share. The company then issues rights to subscribe to one new share at Rs. 40 for each five rights held.

- a. What is the theoretical value of a right when the stock is selling rights-on?
 b. What is the theoretical value of one share of stock when it goes ex-rights?
 c. What is the theoretical value of a right when the stock sells ex-rights at Rs. 50?
 d. Mr. Jackson has Rs. 1,000 at the time the company's stock goes ex-rights at Rs. 50 per share. He feels that the price of the stock will rise to Rs. 60 by the time the rights expire. Compute his net profit on his Rs. 1,000 if he 1 buys company's stock at Rs. 50, or 2 buys the rights at the price computed in part c, assuming his price expectations are valid. [10]

Ans: (a) Rs 1.67 (b) Rs 48.33 (c) Rs.2 (d) 20% and 100%

14. 2066 Q.No. 6

Annie's total assets consist of 200 shares of Woodland Corporation and Rs. 5,000 in cash. The company now offers stockholders one additional share at a price of Rs. 100 for each four shares held. The current market price of the stock is Rs. 200.

- a. Determine the value of each right.
 b. Prepare the statement showing her total assets before rights offering.
 c. What will happen to her total assets after offering if she exercises all her rights?
 d. What will happen to her total assets after offering if she sells all her rights?
 e. What will happen to her total assets after offering if she sells 140 rights and exercises 60 rights?
 f. What will happen to her total assets after offering if she neither sells nor exercises the rights?

Ans: a. Rs 20; b. Rs 45,000; c. Rs 45,000; d. Rs 45,000; e. Rs 45,000; f. Rs 41,000

15. 2065 Q.No. 5

The stock of Yeti Sugar Corporation is selling for Rs.50 per share. The company then issues rights to subscribe to one new share at Rs.40 for each five rights held. 10

- What is the theoretical value of a right when the stock is selling rights-on?
- What is the theoretical value of one share of stock when it goes ex-rights?
- What is the theoretical value of a right when the stock sells ex-rights at Rs.50?
- Reetu a speculator has Rs, 1,000 at the time Yeti stock goes ex-rights at Rs.50 per share. She feels that the price of the stock will rise to Rs.60 by the time the rights expire. Compute her return on Rs.1,000 if she (i) buys Yeti stock at Rs.50, or (ii) buys the rights at the price computed in part c, assuming her price expectations are valid.

Ans: (a) Rs 1.67 (b) Rs 48.33 (c) Rs 2 per right (d) 20%; 100%

16. 2063 Q.No. 4

As one of the minority shareholders of the B. Corporation, you are dissatisfied with current operations of the company. You feel that if you could gain membership on the company's board of directors, you could persuade the company to make improvements. The problem is that current management controls 75 percent of the stock, you control only 7 percent and the balance is held by the minority shareholders. There are a total of 500,000 voting shares. Ten directors will be elected at the next annual stockholder meeting.

- If voting is non-cumulative, can you elect yourself director?
- Suppose you are able to persuade all the minority shareholders that you should be elected. If voting is non-cumulative, can they select you?
- If voting is cumulative, can you elect yourself as a director?
- What percent of minority shares other than you own will you need to have voted for you to be certain of election?
- What is the number of directors the minority shareholders can elect with certainty? [5×2]

Ans: (a) No, because you have only 35,000 shares (b) No, they cannot elect you (c) No. votes needed to elect you are 45,456 (d) 11.62% (e) 2.75 or 2 directors.

17. 2060 Q.No. 5

The Mechi Rice Company has the following balance sheet and income statement.

Balance Sheet			
		Total debt (6%)	Rs.7,000,000
		Common stock (100,000 shares)	3,000,000
		Retained earnings	4,000,000
Total assets	Rs.14,000,000	Total liabilities and capital	Rs.14,000,000

Income Statement	
Earnings rate:	10.5% on total assets
Earnings before interest and taxes	Rs.1,470,000
Interest on debt	420,000
Income before taxes	Rs.1,050,000
Taxes (40% rate assumed)	420,000
Earnings after taxes	Rs.630,000
Earnings per share	Rs.6.30
Dividends per share (56% of earnings)	Rs.3.53
Price earnings ratio	15 times
Market price per share	Rs.94.50

The company plans to raise an additional Rs.5 million through a rights offering: the additional funds will continue to earn 10.5 percent. The price-earnings ratio is assumed to remain at 15 times, the dividend payout will continue to be 56 percent, and the 40 percent tax rate will remain in effect. Assuming a subscription prices of Rs.25 a share.

- How many additional shares of stock will have to be sold?
- How many rights will be required to purchase one new share?
- What will be the new earnings per share?
- What will be the new market price per share?
- What will be the new dividend per share if the dividend payout ratio is maintained?

18. 2059 Q.No. 5

As a shareholder of Koshi Gas Company, you are notified that for each five share you own, you have the right to purchase one additional share at a price of Rs 20. The current market price of share is Rs. 35 per share.

- Determine the value of each right.
- At the time of offering your total assets consist of 490 shares of Koshi stock and Rs. 2,000 in cash. Prepare the statement to show total assets before the offering and total assets after the offering if you exercise all the rights.
- Prepare the statement to show total assets after the offering if you sell all the shares.

Ans: (a) Rs. 2.5 (b) i. Rs. 19,000 ii. Rs. 19,150 iii. Rs. 19,150 iv. Rs. 17,925

19. 2058 Q.No. 5

As one of the minority shareholders of the Beltronix Company Corporation, you are dissatisfied with the current operations of the company. You feel that if you could gain membership on the company's board of directors, you could persuade the company to make improvements. The problem is that current management controls 70 percent of the stock you control 10 percent, and the balance is held by other minority shareholders. There are a total of 500,000 voting shares. Ten directors will be elected at the next annual stockholder meeting.

- If voting is non-cumulative, can you elect yourself director?
- Suppose you are able to persuade all the minority shareholders that you should be elected. If voting is non-cumulative, can you elect yourself director?
- If voting is cumulative, can you elect yourself director?
- What percent of the minority shares other than your own will you need to have voted for you to be certain of election?
- What is the number of directors the minority shareholders can elect with certainty? [10]

Ans: (a) No, because you have only 10% share. To elect yourself as a director you must have 50% + 1 shares (b) No, you have only 30% share (c) Yes, you can elect yourself you have 50,000 shares and you need 45,455 votes to elect yourself (d) No need any minority shares (e) 3.30 or 3 directors.

MBA**THEORETICAL QUESTIONS****20. 2054 Q.No. 3 b**

Describe the general rights of common stockholders. [10]

21. 2045 Q.No. 3

Evaluate the issue of common stock as a source of fund for a Nepalese enterprise and discuss the problems faced by it in this regard. [20]

Write short notes on:**22. 2055 Q.No. 10 b**

Cumulative voting [10]

23. 2054 Q.No. 10 b

Cumulative versus non-cumulative voting [10]

24. 2051 Q.No. 10 b

General rights of common stockholders [10]

25. 2045 Q.No. 10 c

Pre-emptive rights

NUMERICAL QUESTIONS**26. 2057 Q.No. 7**

The Northwest Company has the balance sheet and income statement in Table given below.

The Northeast Company Balance Sheet before rights offering			
		Total debt (6%)	Rs.7,000,000
		Common stock (100,000 shares)	3,000,000
		Retained earnings	4,000,000
Total assets	Rs.14,000,000	Total liabilities and capital	Rs.14,000,000

The Northeast Company Income Statement

Earnings rate: 10.5% on total assets	
Total earnings	Rs.1,470,000
Interest on debt	420,000
Income before taxes	Rs.1,050,000
Taxes (40% rate assumed)	420,000
Earnings after taxes	Rs.630,000
Earnings per share	Rs.6.30
Dividends per share (56% of earnings)	Rs.3.53
Price earnings ratio	15 times
Market price per share	Rs.94.50

The company plans to raise an additional Rs.5 million through a rights offering; the additional funds will continue to earn 10.5 percent. The price-earnings ratio is assumed to remain at 15 times, the dividend payout will continue to be 56 percent, and the 40 percent tax rate will remain in effect. (Do not attempt to use the formula given in the chapter. Additional information is given here that violates the other things constant^a assumption inherent in the formula.)

- a. Assuming subscription prices of Rs.25, Rs.50, and Rs.80 a share:
- (1) How many additional shares of stock will have to be sold?
 - (2) How many rights will be required to purchase one new share?
 - (3) What will be the new earnings per share?
 - (4) What will be the new market price per share?
 - (5) What will be the new dividend per share if the dividend payout ratio is maintained?
- b. Suppose you hold 100 shares of the company stock before the rights offering. After you exercise your rights, what is the net value of your position?

Ans: (a): (1) 200,000; 100,000 and 82,500 shares (2) 0.5; 11.6 rights (3) Rs. 3.15; Rs. 4.725 and Rs. 5.8124 (4) Rs. 47.25; 70.87 and 87.231 (5) Rs. 1.764; 2.646 and 3.26 (b) Rs. 14,175 in each subscription price

27. 2056 Q.No. 7

As one of the minority shareholders of the Beltronix Company, you are dissatisfied with the current operations of the company. You feel that if you could gain membership on the company's board of directors, you could persuade the company to make improvements. The problem is that current management controls 70 percent of the stock you control 10 percent, and the balance is held by other minority shareholders. There are a total of 500,000 voting shares. Ten directors will be elected at the next annual stockholder meeting.

- If voting is non-cumulative, can you elect yourself director?
- Suppose you are able to persuade all the minority shareholders that you should be elected. If voting is non-cumulative, can they elect you?
- If voting is cumulative, can you elect yourself director?
- What percent of the minority shares other than your own will you need to have voted for you to be certain of election?
- What is the number of directors the minority shareholders can elect with certainty? [20]

Ans: (a) Rs. 2.5 (b) i. Rs. 19,000 ii. Rs. 19,150 iii. Rs. 19,150 iv. Rs. 17,925

28. 2055 Q.No. 6 a

How many shares must a minority group own in order to assure election of two directors if nine new directors will be elected and 200,000 shares are outstanding? Assume cumulative voting exists. [10]

Ans: 40,001 shares

29. 2055 Q.No. 6 b

Mr. R. Karki total assets consist of 490 shares of Nepal soap Corporation and Rs.2,000 in cash. Nepal soap now offers stockholders one additional share at a price of Rs.20 for each five shares held. The current market price of the stock is Rs.35.

- What is the value of each right?
- Prepare statements showing ms. Karki's total assets after the offering for each of these alternative courses of action.

i. She exercises all her rights.

ii. She calls all her rights.

iii. She sells 400 rights and exercises 90 rights.

iv. She neither sells nor exercises the rights.

[10]

Ans: (a) Rs. 2.5 (b) i. Rs. 19,000 ii. Rs. 19,150 iii. Rs. 19,150 iv. Rs. 17,925

30. 2054 Q.No. 6

Kathamndu Noodles Company has the balance sheet and income statement as given below:

Balance Sheet of the company before rights offering:

Total assets	Rs.14,000,000
Total debt (6%)	Rs.7,000,000
Common stock (100,000 shares)	3,000,000
Retained earnings	4,000,000
Total liabilities and capital	Rs.14,000,000

Income statement of the company:

Earnings rate: 10.5% on total assets	
Earnings before interest and taxes	Rs.1,470,000
Interest on debt	420,000
Income before taxes	Rs.1,050,000
Taxes (40% rate assumed)	420,000
Earnings after taxes	Rs.630,000
Earnings per share	Rs.6.30
Dividends per share (56% of earnings)	Rs.3.53
Price earnings ratio	15 times
Market price per share	Rs.94.50

The company plans to raise an additional Rs.5 million through a rights offering: the additional funds will continue to earn 10.5 percent. The price-earnings ratio is assumed to remain at 15 times, the dividend payout will continue to be 56 percent, and the 40 percent tax rate will remain in effect. Assuming a subscription price of Rs.25 a share.

- How many additional shares of stock will have to be sold?
- How many rights will be required to purchase one new share?
- What will be the new earnings per share?
- What will be the new market price per share?
- What will be the new dividend per share if the dividend payout ratio is maintained?

[20]

Ans: (a): (1) 200,000; 100,000 and 82,500 shares (2) 0.5; 11.6 rights (3) Rs. 3.15; Rs. 4.725 and Rs. 5.8124 (4) Rs. 47.25; 70.87 and 87.231 (5) Rs. 1.764; 2.646 and 3.26 (b) Rs. 14,175 in each subscription price

31. 2053 Q.No. 6 a

Ms. S. Basnet has 300 shares of Narayani Sugar Company. The market price per share is Rs.75. the company now offers stockholders on new share to be purchased at Rs.60 for every four shares held.

- Determine the value of each right.
- Assume that Ms. Basnet (i) uses 80 rights and sells the other 220, or (ii) sells 300 rights at the market price you have calculated. Prepare a statement showing the changes in her position in each case.

Ans: (a) Rs. 3 (b) (i) 22,500 (ii) 22,500

32. 2053 Q.No. 6 a

Gandaki Biscuits Company common stock is priced at Rs.40 a share on the market. Notice is given that stockholders can purchase one new share at a price of Rs.27.50 for every four shares held.

- At approximately what market price will each right sell?
- Why will this be an approximate price?
- What effect will the issuance of rights have on the original market price?

Ans: (a) Rs. 2.5 (b) Actual price right is determined in the market, (c) Rs. 37,500

33. 2050 Q.No. 7

The MN Company has the following balance sheet and income statement:

Balance Sheet			
		Total debt (6%)	Rs.7,000,000
		Common stock (100,000 shares)	3,000,000
		Retained earnings	4,000,000
Total assets	Rs.14,000,000	Total liabilities and capital	Rs.14,000,000

Income Statement	
Earnings rate: 10.5% on total assets	
Earnings before interest and taxes	Rs.1,470,000
Interest on debt	420,000
Income before taxes	Rs.1,050,000
Taxes (40% rate assumed)	420,000
Earnings after taxes	Rs.630,000
Earnings per share	Rs.6.30
Dividends per share (56% of earnings)	Rs.3.53
Price earnings ratio	15 times
Market price per share	Rs.94.50

The company plans to raise an additional Rs.5 million through a rights offering; the additional funds will continue to earn 10.5 percent. The price-earnings ratio is assumed to remain at 15 times, the dividend payout will continue to be 56 percent, and the 40 percent tax rate will remain in effect. Assuming a subscription price of Rs.25 a share.

- How many additional shares of stock will have to be sold?
- How many rights will be required to purchase one new share?
- What will be the new earnings per share?
- What will be the new market price per share?
- What will be the new dividend per share if the dividend payout ratio is maintained?

Ans: (a) (1) 200,000; 100,000 and 82,500 shares (2) 0.5; 11.6 rights (3) Rs. 3.15; Rs. 4.725 and Rs. 5.8124 (4) Rs. 47.25; 70.87 and 87.231 (5) Rs. 1.764; 2.646 and 3.26 (b) Rs. 14,175 in each subscription price

34. 2046 Q.No. 6

As a shareholder of R Corporation, you are notified that for each four share you own, you have the right to purchase one additional share at a price of Rs 15. The current market price of R Corporation stock is Rs. 30 per share.

- Determine the value of each right.
- At the time of offering your total assets consist of 500 shares of R Corporation stock and Rs. 10,000 in cash. Prepare the statement to show total assets before the offering and total assets after the offering if you exercise all the rights.
- Prepare the statement to show total assets after the offering if you sell all the shares. [20]

Ans: (a) Rs. 3 (b) before and after = Rs. 25,000 (c) Rs. 25,000

5. LONG-TERM DEBT AND PREFERRED STOCK FINANCING

MBS

THEORETICAL QUESTIONS

1. 2069 Q.No. 2

Describe the various protective covenants of loan agreement. [10]

2. 2069 Q.No. 3

How do you evaluate the decisions on refunding a bond or preferred stock issue? Discuss with a suitable example. [10]

3. 2069 Old Q.No. 2b
Discuss the major provisions underlying preferred stock. [5]
4. 2068 Old Q.No. 2
Discuss the merits and demerits of bonds from investor's and company's viewpoint. [10]
5. 2067 Q.No. 2 (Old)
Discuss the advantages and disadvantage of bonds. What are the specific situations that would favour the issue of bonds? [10]
6. 2066 Q.No. 2
Discuss fully how do you evaluate refunding a bond or preferred stock issue. 10
7. 2065 Q.No. 7
Discuss about the refunding a bond issue. Also explain merits and demerits of bond to the investor. 20
8. 2063 Q.No. 7
Discuss fully how do you evaluate refunding a bond or preferred stock issue. What are the major provisions of preferred stock issue: Describe its various advantages and disadvantages. [7+6+7]
9. 2062 Q.No. 2
Explain the major provisions of debt issues. [10]
10. 2059 Q.No. 2
Discuss the advantages and disadvantages of preferred stock from an issuer's viewpoint and investor's viewpoint. [10]
- Write short notes on:
11. 2069 Q.No. 8b
Secured versus unsecured bonds [5]
12. 2069 Old Q.No. 6a
Refunding debt [5]
13. 2068 Q.No. 8a
Secured bonds [5]
14. 2067 Q.No. 8b
Unsecured bonds [5]
15. 2065 Q.No. 6 a
Refunding decision [5]
16. 2062 Q.No. 6 c
Refunding operation [5]
17. 2060 Q.No. 6 b
Income bonds [5]

NUMERICAL PROBLEMS

18. 2070 Q.No. 5
Himal Cement Company (HCC) is considering whether to refund a Rs.60 million, 16 percent coupon, 30-year bond issue that was sold 5 years ago. It is amortizing Rs.3 million of flotation costs on the 16 percent bonds over its 30-years life. HCC's investment bankers have indicated that the Company could sell a new, 25-year issue at an interest rate 13 percent in today's market. Neither they nor HCC's management expects much chance that interest rates will fall below 13 percent any time soon, but there is a chance that rate will increase.
A call premium of 16 percent would be required to retire the old bonds, and flotation costs on the new issue would amount to Rs.3 million. HCC's marginal tax rate is 40 percent. The new bonds will be issued one month before the old bonds were called with the proceeds being invested in short-term securities returning 10 percent annually during the interim period. Is the refunding process desirable? [10]

Ans: Initial outlay = Rs 7,940,000; Annual savings after tax = Rs 10,88,000;
NPV of refunding Rs 3,875,353.60

19. 2070 Old Q.No. 4

Mullet Technologies is considering whether or not to refund a Rs.75 million, 12 percent coupon, 30-year bond issue that was sold 5 years ago. It is amortizing Rs.5 million of flotation costs on the 12 percent bonds over the issue's 30 year life. Mullet's investment bankers have indicated that the company could sell a new 25-year issue at an interest rate of 10 percent in today's market. Neither they nor Mullet's management anticipate that interest rates will fall below 10 percentage any time soon, but there is a chance that rates will increase. A call premium of 12 percent would be required to retire the old bonds, and flotation costs on the new issue would amount to Rs.5 million. Mullet's marginal tax rate is 40 percent. The new bonds would be issued 1 month before the old bonds are called, with the proceeds being invested in short-term government securities returning 6 percent annually during the interim period. Perform a complete bond refunding analysis. What is the bond refunding's NPV? Would you recommend refunding decision?

Ans: Initial outlay = Rs. 8,958,333; Annual saving after tax = Rs. 913,333; NPV of refunding = Rs. 2,717,168

20. 2067 Q.No. 6

Nepal Oil Company has a Rs. 50 million long-term 15-year bond issue outstanding, which has a 12 percent annual coupon and 10 years remaining to maturity. This issue, which was sold 5 years ago, had flotation costs of Rs. 2.5 million, which the firm has been amortizing on a straight-line basis over the 15-year original life of the issue. The bond has a call provision, which makes it possible for the company to retire the bonds at this time by calling them in at a 9 percent call premium. Investment bankers have assured the company that it could sell an additional Rs. 50 million worth of new annual coupon 10-years bonds at an interest rate of 10 percent. To ensure that the funds required to pay off the old debt will be available, the new bonds would be sold one month before the old issue is called, so for one month, interest would have to be paid on two issues. Current short-term interest rates are 8 percent; for the one-month overlap period, proceeds from the new issue will be invested in short-term securities. Predictions are that long-term interest rate are unlikely to fall below 10 percent. Flotation costs on a new refunding issue would amount to Rs. 2 million. The company's marginal tax rate is 40 percent. The after-tax cost of debt is used as a discount factor in the analysis.

- Determine the net investment outlay.
- Should the company refund old high yielding issue and replace it by new low yielding bonds? [8]

Ans: (a) - Rs.4,133,333.33 (b) Rs.380,861.31

21. 2064 Q.No. 8

Universal Trading Company is considering refunding its preferred stock. The dividend rate on this stock is Rs. 6 and it has a par value of Rs. 50 a share. The call price is Rs. 52 a share, and 500,000 shares are outstanding. The financial advisor of the company feels the company can issue new preferred stock in the current market at a required rate of 11 percent. With this rate the new issue could be sold at par, the total par value of the issue would be Rs. 25 million. Flotation costs of Rs. 780,000 are tax deductible, but the call premium is not tax deductible; the company's marginal tax rate is 30 percent. A 90-day period of overlap is expected between the time the new preferred stock is issued and the time the old preferred stock is retired. Should the company refund its preferred stock using refunding? [20]

Ans: NPV = - Rs. 23,273 Refunding should be made.

MBA**THEORETICAL QUESTIONS****22. 2058 Q.No. 3**

Discuss fully how do you evaluate refunding a bond or preferred stock issue.

23. 2057 Q.No. 1

Describe the various instruments of long-term debt.

[20]

24. 2057 Q.No. 3

What are the advantages and disadvantages of preferred stock issue? Discuss the major provisions of preferred stock issue. [20]

25. 2056 Q.No. 2

What are the advantages and disadvantages of long-term debt? Discuss the various conditions that favour the use of long-term debt. [20]

26. 2055 Q.No. 4

Explain the relative advantages and disadvantages of issuing long-term bond. [20]

27. 2053 Q.No. 4

Discuss the advantages and disadvantages of preferred stock from an issuer's viewpoint and investor's viewpoint.

28. 2052 Q.No. 4

Describe how a decision to refund a bond or a preferred stock issue is evaluated. [20]

29. 2051 Q.No. 3

Discuss the advantages and disadvantages of long-term debt. What conditions favour the use of long-term debt? [10]

30. 2050 Q.No. 4

Discuss the advantages and disadvantages of preferred stock. What are the general provisions contained in preferred stock agreement. [20]

31. 2048 Q.No. 3

Discuss the various instruments of long-term debt financing. [20]

32. 2044 Q.No. 3

Evaluate the various instruments of long-term financing that are available to a corporate organization. What considerations should an organization make while issuing the appropriate instrument of long-term financing in Nepal?

33. 2041 Q.No. 3

Examine the characteristics of long-term debts and also explain the conditions that favour the use of such debts. [20]

34. 2040 Q.No. 2

Examine the importance of long-term funds for financing 'hard core' component of working capital. How can such long-term funds be raised in Nepal? [20]

Write short notes on:**35. 2056 Q.No. 10 b**

Trustee [10]

36. 2056 Q.No. 10 c/2055 Q.No. 10 (a)

Income bonds [10]

NUMERICAL QUESTIONS**37. 2046 Q.No. 7**

The RR Company has a Rs.600,000 long term twenty year bond issue outstanding which has an additional fifteen years to maturity and bears a coupon interest rate of 12 percent. The interest payments are made annually. Financial market conditions have given the company the opportunity of refinancing the debt with another fifteen-year bond but a lower rate of 10 percent. The company plans to use all debt financing for the proposed bond-refunding project. The relevant data on the old issue and on the new refunding issue are summarized below:

	Old issue	New issue
Face amount	Rs.600,000	Rs.626,020
Interest rate	12 percent	10 percent
Life of bond	20 years	15 years
Maturity date	Shrawan 1, 2060	Shrawan 1, 2060
Floatation costs	2 percent of face amount	2 % of face amount
Date issued	Shrawan 1, 2040	Shrawan 1, 2045
Redemption date	Shrawan 1, 2045	—
Call price	Rs.104	—

Is it worthwhile to refund the old issue? Note that the company's applicable corporate tax rate is 40 percent. [20]

Ans: NPV = Rs. 47,350; refund the old issue

6. WARRANTS AND CONVERTIBLES

MBS

THEORETICAL QUESTIONS

1. 2061 Q.No. 7

How do you value warrant and convertible as useful sources of financing? Explain in this connection the underlying assumption and factors that affect the value of warrants and convertibles. [20]

■ Write short notes on:

2. 2067 Q.No. 8c

Exchangeable debt

[5]

NUMERICAL QUESTIONS

3. 2070 Q.No. 11

The Sahara Company has grown rapidly during the past 5 years, recently, its commercial bank urged the company to consider increasing its permanent financing. Its bank loan under a line of credit has risen to Rs.250,000, carrying an 8 percent interest rate. Sahara Company has been 30 to 60 days late in paying trade creditors. Discussions with an investment banker have resulted in the decision to raise Rs.500,000 at this time. Investment bankers have assured the firm that the following alternatives are feasible (flotation costs will be ignored):

Alternative 1: Sell common stock at Rs.8.

Alternative 2: Sell convertible bonds at an 8 percent coupon, convertible into 100 shares of common stock for each Rs.1,000 bond.

Alternative 3: Sell debentures at an 8 percent coupon, each Rs.1,000 bond carrying 100 warrants to buy common stock at Rs.10.

Paras Karki, the President, owns 80 percent of the common stock and wishes to maintain control of the common. One hundred thousand shares are outstanding. The following are extracts of the company's latest financial statements:

Balance Sheet

	Current liabilities.....	Rs.400,000
	Common stock, par Re.1.....	100,000
	Retained earnings.....	50,000
Total assets.....	Rs.550,000	Total claims..... Rs.550,000

Income Statement

Sales	Rs.1,100,000
All costs except interest	990,000
EBIT	Rs.110,000
Interest	20,000
EBT	Rs.90,000
Taxes (40%)	36,000
Net income	Rs.54,000
Shares outstanding	100,000
Earnings per share	Rs.0.54
Price/Earnings rate	15.83X
Market price of stock	Rs.8.55

- Show the new balance sheet under each alternative. For Alternatives 2, and 3, show the balance sheet after conversion of the bonds or exercise of the warrants. Assume that half of the funds raised will be used to pay off the bank loan and half increase total assets.
- Show Mr. Karki's control position under each alternative, assuming that he does not purchase additional shares.
- What is the effect on earning per share of each alternative, if it is assumed that profits

- d. What will be the debt ratio under each alternative?
 e. Which of the three alternatives would you recommend to Mr. Karki, and why? [6+3+6+3+2]

Ans: (a) Alternative 1: Total assets Rs 800,000; Alternative 2: Total assets Rs 800,000; Alternative 3: Total assets Rs 1,300,000; (b) 80%; 49%; 53%; 53% (c) Rs 0.54; Rs 0.59; Rs 0.64; Rs 0.88 (d) d. 73%; 18.75%; 18.75%; 50%

4. 2070 Old Q.No. 9

The Sagarmatha Company is contemplating raising Rs.10 million by means of debt issue. It has the following alternatives:

- A 20-year, 8 percent convertible debenture issue with a Rs.50 conversion price and Rs.1,000 face value.
- A 20-year, 10 percent straight bond issue. Each Rs.1,000 bond has a detachable warrant to purchase four shares for Rs.50 a share.

The company has a 50 percent tax rate, and its stock is currently selling at Rs.40 a share. Its earnings before interest and taxes are a constant 20 percent of its total capitalization, which currently appears as follows:

Common stock (par Rs.5)	Rs.5,000,000
Additional paid-in capital	10,000,000
Retained earnings	15,000,000
Total	Rs.30,000,000

- Show the capitalization resulting from each alternative, both before and after conversion or exercise (a total of four capitalizations).
- Compute earnings per share currently and under each of the four capitalizations determined in part 1.
- How does warrant differ from convertible? [10+6+4]

Ans: Convertible financing: (1) Before conversion: Debentures Rs.10,000,000; Common stock Rs. 5,000,000; Paid in capital; Rs. 10,000,000; Retained earnings Rs. 15,000,000; After conversion: Debentures Nil, Common stock Rs.6,000,000; Paid in capital Rs. 19,000,000; Retained earnings Rs. 15,000,000; Warrant financing: Before exercise: Debentures Rs.10,000,000; Common stock Rs.5,000,000; Paid in capitalRs.10,000,000; Retained earnings Rs.15,000,000; After exercise: Debentures Rs.10,000,000; Common stock Rs.5,200,000; Paid in capital Rs.11,800,000; Retained earnings Rs.15,000,000 (2) Under convertible: Before conversion: EPS = Rs.3.60; After conversion: EPS = Rs.3.33; Under warrants: Before exercise: EPS = Rs.3.50; After exercise EPS = Rs.3.56

5. 2069 Q.No. 11

Barton Energy Company (BEC) is planning to raise Rs. 10 million by selling convertible debentures. It recently sold an issue of nonconvertible debentures yielding 10 percent. Investment bankers have informed the treasurer that she can sell convertibles at a lower interest yield; they have offered her these two choices:

Bond A: Convertible bond price = Rs. 55.55 (conversion ratio = 18)
 Coupon interest = Rs. 70 (7% coupon yield)
 Face value = Rs. 1,000
 25-year maturity

Bond B: Convertible bond price = Rs. 58.82 (conversion ratio = 17)
 Coupon interest = Rs. 80 (8% coupon yield)
 Face value = Rs. 1,000
 25-year maturity

In each case, the bonds are not callable for two years; but, thereafter, they are callable at Rs. 1,000. Investors do not expect the bonds to be called unless conversion value, $C_t = Rs. 1,354$; but they do expect the bonds to be called if $C_t = Rs. 1,354$.

BEC's current stock price (P_0) is Rs. 50, and its growth is expected to continue at an annual rate of 6 percent, BEC's current dividend is Rs. 4.50 per share, so investors appear to have an expected (and required) rate of return of 15 percent that is dividend yield is 9% and growth is 6% on investments as risky as the company's common stock. BEC's tax rate is 40 percent.

- Determine the expected yield on Bond A. If the yield on Bond B is 11 percent, which bond is would an investor choose?

- b. After tax yield on convertible Bond B is 8.1 percent. Which would the company's treasurer prefer?
- c. Suppose the company decided on Bond A but wanted to step up the conversion price from Rs. 55.55 to Rs. 58.82 after ten years. Should this stepped-up conversion price affect the expected yield and the other terms on the bonds?
- d. Suppose, contrary to investors' BEC called the bonds after two years. What would the ex post (after-the-fact) effective yield be on Bond A? Would this early call affect the company's credibility in the financial markets?
- e. What would happen to the wealth position of an investor who bought BEC bonds the day before the announcement of the unexpected two-year call?
- f. Suppose the expected yield on the convertible had been less than that on straight debt. Would this appear logical? Explain.

[20]
Ans: a. 10.66%, b. 8.15% d. 7.543%

6. 2069 Old Q.No. 3

- a. Consider ABC company is employing straight debentures with warrants instead of convertible subordinate debentures for raising the needed funds of Rs. 50 million. Exercise price is Rs. 25 and current price of stock is Rs. 32. Each warrant can purchase one share of common stock. Find the minimum theoretical value of warrant. [5]
- b. The investor can buy 35 shares of stock or 160 warrants and price of stock and warrant at the end is Rs. 64 and Rs. 39. What is the worth of the stock and warrant? Find leverage effect of differences in return on stock and warrants. [5]

Ans: a. 7 per warrant, b. Rs. 2240 and 100%; Rs. 6240 and 457.143%

7. 2068 Q.No. 11

The National Hydropower Company (NHC) has the following balance sheet:

Balance Sheet 1

Current assets	Rs 250,000	Current debt (free)	Rs 100,000
Net fixed assets	250,000	Common stock, par value, Rs 2	100,000
		Retained earnings	300,000
Total assets	Rs 500,000	Total claims	Rs 500,000

NHC plans to sell Rs 300,000 of debentures in order to finance its expected sales growth. It is trying to decide whether to sell convertible debentures or debentures with warrants. With spontaneous financing and retained earnings, next year's balance sheet are projected as follows:

Balance Sheet 2

Current assets	Rs 500,000	Current debt	Rs 200,000
Net fixed assets	500,000	Debentures	300,000
		Common stock, par value Rs 2	100,000
		Retained earnings	400,000
Total assets	Rs 1,000,000	Total claims	Rs 1,000,000

The convertible debentures will pay 7 percent interest and will be convertible into 40 shares of common stock for each Rs 1,000 debenture. The debentures with warrants will carry an 8 percent coupon and entitle each holder of a Rs 1,000 debenture to buy 25 shares of common stock at Rs 50.

- a. Assume that convertible debentures are sold and that all are later converted. Show the new balance sheet over Balance Sheet 2, disregarding any changes in retained earnings.

Balance Sheet 3

	Current debt	
	Debentures	
	Common stock, par value Rs 2	
	Paid-in capital	
	Retained earnings	
Total assets	Total claims	

- b. Assume that instead of convertibles, debentures with warrants were issued. Assume further that the warrants were all exercised. Show the new balance sheet figures:

Balance Sheet 4

	Current debt	
	Debentures	
	Common stock, par value Rs 2	
	Paid-in capital	
	Retained earnings	
Total assets	Total claims	

- c. NHC's earnings before interest and taxes are 30 percent of total assets, its PE ratio is 16, and its corporate tax rate is 40 percent. Prepare income statement corresponding to balance sheets 3 and 4. What is the effect of each alternative on NHC's EPS and market price per share?
- d. Should NHC choose convertible debentures or debentures with warrants? [20]

Ans: (a) Total assets = Rs. 1,000,000 (b) Total assets = Rs.1,375,000 (c) EPS: Rs. 2.90 and Rs. 4.054; MPS: Rs. 46.40 and Rs. 64.80

8. 2068 Old Q.No. 8

The Moon Light Company's net income for 2006 was Rs 3,450,000. Moon Light's stock consists of 600,000 shares of common stock, and 200,000 warrants, each good for buying two shares of common stock at Rs 40. The warrants are protected against dilution; that is the exercise price must be adjusted downward in the event of a stock dividend or if Moon Light sells common stock at less than the Rs 40 exercise price.

On June 1, 2007, company issued rights to buy one new share of common stock for Rs 20 for every four shares held. The market price of stock on June 1 was Rs 45 per share.

- Compute the primary and fully diluted EPS as of December 31, 2007.
- What is the theoretical value of the rights before the stock sells ex rights?
- What is the adjusted exercise price of the warrants after the rights offering?
- Net income for 2007 is Rs 3,600,000. All of the rights and none of the warrants have been exercised. Compute primary and fully diluted EPS for 2007. [20]

Ans: (a) Rs.5.75 and Rs.3.45 per share (b) Rs.5 (c) Rs. 20 (d) Rs.4.8 and Rs.3.13

9. 2067 Q.No. 11

Nepal Tea has grown rapidly during the past five years. Recently commercial bank has urged the company to consider increasing permanent financing. Its bank loan under a line of credit has risen to Rs 175,000, carrying 15 percent interest. The company has been 30 to 60 days late in paying trade creditors. Discussions with an investment banker have resulted in the suggestion to raise Rs. 350,000 at this time. Investment bankers have assured the company that the following alternatives will be feasible (ignoring flotation costs):

- Sell common stock at Rs. 7.
- Sell convertible bonds at a 7 percent coupon, convertible into common stock at Rs. 8.
- Sell debentures at a 7 percent coupon, each Rs. 1,000 bond carrying 125 warrants to buy common stock at Rs. 8.

Additional information is given in the company's balance sheet and income statement below:

Balance Sheet

	Current liabilities	Rs. 315,000
	Common stock, par Rs. 1	90,000
	Retained earning	45,000
Total assets	Total liabilities and capital	Rs. 450,000

Income Statement

Sales	Rs. 900,000
All costs except interest	810,000
Net operating income	Rs. 90,000
Interest	26,250
Income before taxes	Rs. 63,500
Taxes (at 40%)	25,500

Net income	Rs. 38,250
Shares	90,000
Earnings per share	Rs. 0.43
Price-earning ratio	17 times
Market price of stock	Rs. 7.31

Mr. Hari, the president, owns 70 percent of company's common stock and wishes to maintain control of the company; 90,000 shares are outstanding.

- Show the new balance sheet under each alternative. For alternatives 2 and 3, show the balance sheet after conversion of the debentures or exercise of warrants. Assume that half the funds raised will be used to pay off the bank loan and half to increase total assets.
- Show Hari's control position under each alternative, assuming that he does purchase additional securities.
- What is the effect on earnings per share of each alternative if it is assumed that profits before interest and taxes will be 20 percent of total assets?
- What will be the debt ratio under each alternative?
- Which of the three alternatives would you recommend to Hari? Explain.

W&C

Ans: (1) total assets = Rs. 6,25,000 (common stock); total assets (convertible) = Rs. 625,000; total (after exercise) = Rs. 9,75,000 (2) (a) 45% (b) 47.10% (c) 47.10% (3) (a) Rs. 0.54 (b) Rs. 0.56, (c) Rs. 0.76 (4) (a) 22.4% (b) 22.4% (c) 50% (5) Choose debentures with warrants.

10. 2067 Q.No. 8 (Old)

National Investment Bank plans to sell a 8 percent coupon, Rs. 1,000 par value, 20-year convertible bond issue. The bond is callable at Rs. 1,060 in the first year, and the call price declined by Rs.4 each year thereafter. The bond may be converted into 10 shares of stock with a current market price of Rs. 100 per share. The stock price is expected to grow at a rate of 8 percent per year. Nonconvertible bonds of the same risk as company's would yield 9 percent. In the past, company's policy has been to call convertible securities when the conversion value exceeds the call price by 30 percent.

- Determine the straight debt value (B_t) at $t = 0$, $t = 6$, and $t = 10$.
- Calculate the conversion value (C_t) for $t = 0$, $t = 6$ and $t = 10$.
- What is the minimum price the convertible can sell for at $t = 0$? At $t = 6$? At $t = 10$?
- Calculate the call price of the debt at $t = 0$, $t = 6$ and $t = 10$.
- In what year is the debt expected to be called?
- What would debt holder do if the bond was called at $t = 0$? At $t = 6$? At $t = 10$? Whether they will accept call price or convert?
- What return on investment is earned by bondholders who purchase the convertibles at par value on the date they were issued if the bonds are called in four years? [20]

Ans: (a) Rs 908.68; Rs 922.096; Rs 935.816 (b) Rs 1,000; Rs 1,586.87; Rs 2,158.92 (c) Rs 1000; Rs. 1,586.87; Rs. 2,158.92 (d) Rs 1,060; Rs 1,036; Rs 1,020 (e) 4 years (g) 15.20%

11. 2066 Q.No. 8

Nepal Telecom Company is planning to raise Rs. 10 million by selling convertible debentures. It recently sold an issue of nonconvertible debentures yielding 10 percent. Investment bankers have informed the treasurer that she can sell convertibles at a lower interest yield; they have offered her the following two choices:

Bond 1:

Convertible bond price = Rs. 100
 (Conversion ratio, $q = 10$)
 Coupon = Rs. 70 (7% coupon yield)
 Face value = Rs. 1,000
 25-year maturity

Bond 2:

Convertible bond price = Rs. 125
 (Conversion ratio, $q = 8$)
 Coupon = Rs. 100 (10% coupon yield)
 Face value = Rs. 1,000
 25-year maturity

In each case, the bonds are not callable for two years; but, thereafter, they are callable at Rs. 1,000. Investors do not expect the bonds to be called unless $C_t = Rs. 1,200$; but they do expect the bonds to be called if $C_t = Rs. 1,200$.

The company's current stock price (P_0) is Rs. 50, and its growth is expected to continue at an annual rate of 6 percent. The company's current dividend is Rs. 4.550 per share, so investors

appear to have an expected (and required) rate of return of 15 percent) ($k = d/p_0 + g = \text{Rs. } 450/\text{Rs. } 50 + 6\%$) on investments as risk as the company's common stock. The company's tax rate is 40 percent.

- In what year the Bond 1 is likely to be called by the company? If the Bond 2 is likely to be called in 8.8 years, how does it compare with Bond 1?
- Determine the expected yield on Bond 1. If the expected yield on Bond 2 is 12 percent, how does it compare with Bond 1?
- Which bond would an investor prefer? Determine the expected yield on after tax basis for Bond 1 from company's viewpoint. If the after tax yield on Bond 2 is 7.8 percent, which bond would company's treasurer prefer?
- Suppose the company decided on Bond 1 but wanted to step up the conversion price from Rs. 100 to Rs. 110 after ten years. Should this stepped-up conversion price affect the expected yield on the bonds?
- Suppose, contrary to investors' the company called the bonds after two years. What would the ex-post (after-the-fact) effective yield be on Bond 1? Would this early call affect the company's credibility in the financial markets?
- Suppose the expected yield on the convertible had been less than that on straight debt. Would this appear logical? Explain.

Ans: a. $t = 4.9367$; b. 10.26%; c. 7.64%; d. Not effect; e. 7.54%; f. No.

12. 2063 Q.No. 9

Annapurna Company has grown rapidly during the past five years. Recently, its commercial bank has urged the company to consider increasing permanent financing. Its bank loan under a line of credit has risen to Rs. 1,75,000, carrying 15 percent interest. Annapurna has been 30 to 60 days late in paying trade creditors.

Discussion with an investment banker have resulted in the suggestions to raise Rs. 3,50,000 at this time. Investment bankers have assured the company that the following alternatives will be feasible (ignoring flotation costs):

- Sell common stock at Rs. 7
- Sell convertible bonds at a 7 percent coupon, convertible into common stock at Rs. 8.
- Sell debentures at a 7 percent coupon, each Rs. 1,000 bond carrying 125 warrants to buy common stock at Rs. 8

Additional information is given in the company balance sheet and income statement below:

Annapurna Company's Balance Sheet

	Rs.		Rs.
		Current liabilities	315,000
		Common stock	90,000
		Retained earnings	45,000
Total assets	450,000	Total liabilities and capital	450,000

Annapurna Company's Income statement

	Rs.
Sales	900,000
All costs except interest	810,000
Net operating income	90,000
Interest	26,250
Income before taxes	63,750
Taxes (at 40%)	25,500
Net income	38,250
Shares	90,000
Earning per share	0.43
Market price of stock	Rs. 7.31
Price earning ratio	17 times

Mrs. Sita Bhandari, the President, owns 70 percent of Annapurna's common stock and wishes to maintain control of 90,000 shares outstanding.

- Show the new balance sheet under each alternative. For alternatives 2, and 3, show the balance sheet after conversion of the debentures or exercise of warrants. Assume that half the funds raised will be used to pay off the bank loan and half to increase total assets.
- Show Bhandari's control position under each alternative, assuming that she does not purchase additional securities.
- What is the effect on earnings per share of each alternative if it is assumed that profits before interest and taxes will be 20 percent of total assets?
- What will be the debt ratio under each alternative?
- Which of the three alternatives would you recommend to Bhandari? Explain. [5 × 4]

Ans: (1) total assets = Rs. 6,25,000 (common stock); total assets (convertible) = Rs. 625,000; total (after exercise) = Rs. 9,75,000 (2) (a) 45% (b) 47.10%, (c) 47.10% (3) (a) Rs. 0.54 (b) Rs. 0.56, (c) Rs. 0.76 (4) (a) 22.4% (b) 22.4% (c) 50.26% (5) Choose debentures with warrants.

13. 2062 Q.No. 8 a

Himalayan Bank sold Rs. 200 million of 8 percent coupon rate, 25-years convertible subordinated debentures in April 1983. The bonds had Rs. 1000 par value and a conversion price of Rs. 42.25. The market price of Himalayan Bank's Common Stock was Rs. 33 and market interest rate on comparable quality and maturity non-convertible debenture was 12 percent. The debentures were sold at par (ignore flotation costs). Assume that interest was paid yearly.

- What is the initial straight bond value of these convertible debentures?
- What is the conversion ratio and the initial conversion value of the 8 percent debentures?
- If all the convertible debentures are eventually converted, how many additional shares of Himalayan Bank common stock will be issued?
- If Himalayan Bank plans to call the convertible when the market price is at least 20 percent above the conversion price, what will be the conversion value of the security at that time? 10

Ans: (a) Rs. 686.44 (b) 23.67 shares and Rs. 781.11 (c) 8,449,514.153 shares (d) Rs. 1,200.07

14. 2062 Q.No. 8 b

The Himalayan Company has warrants outstanding that expire in three years. Each warrant entitles the holders to purchase one share of common stock at an exercise price of Rs. 40 per share. Determine the formula value and premium over the formula value if the respective prices of common stock and warrants are:

- Rs. 32 per share and Rs. 1.5 per warrant.
- Rs. 40 per share and Rs. 3.5 per warrant
- Rs. 48 per share and Rs. 10 per warrant

10
Ans: (a) Rs. 1.5 (b) Rs. 3.50 (c) Rs. 2

15. 2061 Q.No. 3

On July 2, 1984, it was announced that the Dana Corporation was issuing Rs.150 million face amount of debt at Rs.500 for each Rs.1,000 face amount of securities. The debentures carry a 5½ percent coupon, maturing in 2009. They are convertible until December 15, 1996, at Rs.75.64 face amount of debentures for each common share. The price of common stock closed on July 2, 1984, at Rs.32.

- How many shares of common stock would be received upon conversion?
- What is the conversion price based on Rs.500 issuing price of the bonds?
- What percentage premium does this represent over the Rs.32 common stock price?
- What is the yield to maturity of the bonds based on the data given? (Assuming semiannual compounding.)

Ans: (a) 13.22 shares (b) Rs. 37.82 (c) 18.18% (d) 12.4436%

16. 2060 Q.No. 8 a

Kathmandu Pizza has outstanding warrants, where each warrant entitles the holder to purchase two shares of stock at Rs.24 per share. The market price per share of stock and market price per warrant were the following over the last year: [10]

Observation	1	2	3	4	5	6
Stock price	Rs.20	Rs.18	Rs.27	Rs.32	Rs.24	Rs.38
Warrant price	5	3	12	20	8	29

Determine the theoretical value per warrant for each of these observations. At what price per common share is the warrant premium over theoretical value the greatest? and why?

Ans: Theoretical value: Rs. -8 or 0, 0, 6, 16, 0, 28 respectively;
Warrant price: Rs. 5, 3, 6, 4, 8, and 1 respectively

17. 2060 Q.No. 8 b

The Siraha Textiles Company has current earnings of Rs 3 per share with 500,000 shares outstanding. The company plans to issue 40,000 shares of 7 percent, Rs 50 per value convertible preferred stock at par. The preferred stock is convertible into two shares of common for each preferred share held. The common stock has a current market price of Rs 21 per share.

- What is the preferred stock's conversion value?
- What is the conversion premium?
- Assuming that total earnings stay the same, what will be the effect of the issue on primary earnings per share before conversion? and on a fully diluted basis?
- If profits after taxes increase by Rs. 1 million, what will be primary earnings per share before conversion? and on a fully diluted basis?

Ans: (a) Rs. 42 (b) 19.05% (c) Before = Rs. 2.72, after = 2.59

18. 2059 Q.No. 8 a

Max Murphy, Inc., has warrants outstanding that allow the holder to purchase 3 shares of stock for a total of Rs.60 for each warrant. Currently, the market price per share of Max Murphy common is Rs.18. Investors hold the following probabilistic beliefs about the stock 6 months hence:

Market price per share	Rs.16	Rs.18	Rs.20	Rs.22	Rs.24
Probability	0.15	0.20	0.30	0.20	0.15

- What is the present theoretical value of the warrant?
- What is the expected value of stock price 6 months hence?
- What is the expected value or theoretical value of the warrant 6 months hence?
- Would you expect the present market price of the warrant to equal its theoretical value? If not, why not?

Ans: (a) Rs. 6 or, 0 (b) Rs. 20 (c) Rs. 3 (d) Warrant is worth more than its theoretical value ... warrant expects to sell up some positive price.

19. 2059 Q.No. 8 b

The common stock of the Electricity Corporation of Nepal earns Rs.2.50 per share, has a dividend payout of two-thirds, and sells at a P/E ratio of 16. The corporation wishes to offer Rs.10 million of 9 percent, 20-year convertible debentures with an initial conversion premium of 20 percent and a call price of 105. The company currently has 1 million common shares outstanding and has a 50 percent tax rate.

- What is the conversion price?
- What is the conversion ratio per Rs.1,000 debenture?
- What is the initial conversion value of each debenture?
- How many new shares of common must be issued if all debentures are converted?

Ans: (a) Rs. 48 (b) 20,803 shares (b) Rs. 833.30 (d) Rs. 208,333
(e) EPS: Before = Rs. 2.55 after = Rs. 2.48

20. 2058 Q.No. 8

The Bhairahawa Sugar Mill is contemplating-raising Rs.10 million by means of a debt issue. It has the following alternatives:

- A 20-year, 8 percent convertible debenture issue with a Rs.50 conversion price and Rs.1,000 face value.
- A 20-year, 10 percent straight bond issue.

Each Rs.1,000 bond has a detachable warrant to purchase four shares for Rs.50 a share. The company has a 50 percent tax rate, and its stock is currently selling at Rs.40 a share. Its earnings before interest and taxes are a constant 20 percent of its total capitalization, which currently appears as follows:

Common stock (par Rs.5)	Rs.5,000,000
Additional paid-in capital	10,000,000
Retained earnings	15,000,000
Total	Rs.30,000,000

- a. Show the capitalization resulting from each alternative, both before and after conversion or exercise.
- b. Compute earnings per share currently and under each of the capitalizations determined in (1). [20]
- Ans: (a) Before conversion: Debenture = 10, Common stock = 5, Paid in capital = 10, Retained earnings = 15; After conversion: Common stock = 6, Paid in capital = 19, Retained earnings = Rs. 15; Before exercise: Debenture = 10, Common stock = 5, Paid in capital = 10, Retained earnings = 15; After exercise: Debenture = 10, Common stock = 5.2, Paid in capital = 11.8; Retained earnings = 15
- (b) Convertible = 3,360 and 3.33; Warrants = 3,350 and 3.56

MBA

THEORETICAL QUESTIONS

21. 2055 Q.No. 3 a

Explain why do warrants typically sell at prices higher than their formula values. [10]

22. 2054 Q.No. 4 b

Explain why convertibles typically sell at prices greater than straight debt with the same coupon, maturity, and call provisions. [10]

23. 2048 Q.No. 2

Why does a firm attach warrant to bond or preferred stock? Why does the warrant generally sell at a premium? [20]

24. 2040 Q.No. 4

Examine the merits and limitations of convertible debentures in the corporate capital structure. How should the terms and conditions for issue of convertible debentures be determined? [20]

25. 2053 Q.No. 3 a

Evaluate the following statement "Issuing convertible securities represents a means by which a firm can sell common stock at a price above the existing market." [20]

■ Write short notes on:

26. 2054 Q.No. 10 (a)

Warrant and convertible [10]

27. 2050 Q.No. 10 (c) / 2041 Q.No. 10 (a)

Warrants [10]

28. 2040 Q.No. 10 (b)

Use of warrants in financing [10]

NUMERICAL QUESTIONS

29. 2059

Vaught Engineering plans to sell a 6 percent coupon, Rs.1,000 par value, 20-year convertible bond issue. The bond is callable at Rs.1,050 in the first year, and the call price declines by Rs.2.50 each year-thereafter. The bond may be converted into 18 shares of stock with a current market price of Rs.46 per share. The stock price is expected to grow at a rate of 7 percent per year. Nonconvertible bonds of the same risk as Vaught's would yield 9 percent. In the past, Vaught's policy has been to call convertible securities when the conversion value exceeds the call price by 20 percent.

- Determine the straight debt value (B_t) at $t = 0$, $t = 6$, and $t = 10$. Use these three points and the maturity value (M) to graph the straight debt value of the convertible.
- Graph the conversion value (C_t) on the same graph for $t = 0$, $t = 6$, and $t = 10$.
- What is the minimum the convertible can sell for at $t = 0$? At $t = 6$? At $t = 10$? Assume the stock value increases as predicated.
- Show the call price, D_{ct} , of the debt on the same graph at $t = 0$, $t = 5$, $t = 6$, and $t = 10$.
- In what year is the debt expected to be called?
- On the graph, locate on C_t the point where the expected call policy forces conversion (M').