Capital Structure Management

New Syllabus

Course Title: Capital Structure Management
Course No. FIN 632
Nature of the Course: Specialization
Duration of the Course: 100 lecture hours **Full Marks: 100**
Duration of the Class: 60 minutes **Pass Marks: 40**

Course objectives

The objective of this course is to provide the students with an understanding of the theory of capital structure and knowledge of the analytical techniques so developing skills in their application required for devising appropriate capital structure particularly in the context of Nepal.

Course Description

This course provides a broad overview of theory of capital structure with a special emphasis on type of financing, short term financing, term loans, lease financing, common stock financing, debt and preferred stock, warrants and convertibles, option valuation, theory of capital structure, and dividend policy. The course also provides the overview of these topics in the context of Nepal.

Course Contents

Unit 1: Introduction .... LH 5

Capital structure decisions and maximization of shareholder wealth; Financial structure and capital structure; Optimal capital structure: significance goals, and features; factors affecting capital structure decision.

Unit 2: Short-term Financing .... LH 15

Conceptual considerations and type of financing, short-term financing: choosing a short-term financing source, trade credit financing, stretching payables, advantages and disadvantages of trade credit financing, factors influencing credit terms, accruals as a source of funds, money market credit: commercial paper market, bankers' acceptances, short-term loans: line of credit, revolving credit agreement, transaction loans, interest rates, compensating balances, methods of charging interest rates, secured lending arrangements, assignment of accounts receivable, factoring receivables, inventory loans; floating loan, chattel mortgage, trust receipt loans, terminal warehouse receipt loan, field warehouse receipt loan.

Unit 3: Term Loans and Lease Financing .... LH 15

Term loans: bank term loan, revolving credit, insurance company term loans, equipment financing; characteristics of term loans, repayment schedule; terms of loan agreements, choice of banks; Lease financing: significance, type of leases, accounting for leases, the financing decision: lease versus borrow, lessor's point of view, lessee's point of view, alternative computation procedures in the leasing analysis, cost comparison for operating leases, factors influencing leasing versus owning decisions, and internal rate of return analysis.

Unit 4: Common Stock Financing .... LH 10

Characteristics of common stock: apportionment of income, control and risk, rights of holders of common stock, nature of voting rights, cumulative voting, preemptive right, evaluation of common stock as a source of funds, use of rights in financing: number of rights required to purchase a new share value of a right, effect on position of stockholders, rights issue versus public offerings, initial financing, venture capital, initial public offerings information effects, asymmetric information.

Unit 5: Long-Term Debt and Preferred Stock .... LH 10

Long-term debt financing: Instruments of long-term debt financing, trustee, indenture, call provision, sinking fund; Secured bonds and unsecured bonds; Decisions on the use of debt; Preferred stock: Use of preferred stock in financing decisions, major provisions of preferred stock issues, evaluation of preferred stock, rationale for different classes of securities, refunding debt or preferred stock.

Unit 6: Warrants and Convertibles .... LH 10

Meaning of warrants, characteristics, valuation of warrants, use of warrants in financing; Convertibles; Rationale for the use of convertibles, conversion ratio and conversion price, convertible bond model, use of convertible in financing, valuing convertible bonds, call policy on convertible bonds, exchangeable debt.

Unit 7: Option Valuation .... LH 10

Meaning and types of options, expiration date value of option, valuation with one period to expiration, volatility of the stock, factors affecting call option, binomial option pricing of a hedged position, the Black-Scholes Option Pricing Model, applications to corporate finance, the OPM and investment decisions.

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Unit 8: Theory of Capital Structure .... LH 15

Introduction to the theory, approaches to capital structure, Modigliani-Miller position, arbitrage argument, corporate and personal taxes, effect of bankruptcy costs, other imperfections, incentive issues and agency costs, financial signalling, information asymmetry, a pecking order of financing, empirical evidence on capital structure.

Unit 9: Dividend Policy .... LH 10

Dividend Payout irrelevance; dividends as a residual, Modigliani and Miller position, dividend versus terminal value, irrelevance under uncertainty, arguments for dividend payout mattering, financial signalling: empirical testing and implications for payout.

Basic Readings

Brigham, E.F. and Louis, C.G. (2006). **Financial Management: Theory and Practice.** New York: The Dryden Press.

Horne, V. and James, C. (2007). **Financial Management and Policy**. New Delhi: Prentice Hall of India.

Supplementary Readings

Brealey, R. and Steward, M. (2005). **Principles of Corporate Finance.** New York: McGraw Hill Book Company.

Copeland, T.E. and Weston, J.F. (1988). **Financial Theory and Corporate Policy.** New York: Addison-Wesley Publishing Company.

Gautam, R.R. and Thapa, K. (2008). **Capital Structure Management.** Kathmandu: Asmita Books Publishers and Distributors.

Hampton, J.J. (2001). **Financial Decision Making: Concepts, Problems, and Cases.** New Delhi: Prentice Hall of India Private Ltd.

Keon, A.J., Scott, D.F., Jr., Martin, J.D., and Petty, J.W. (2007). **Basic Financial Management.** New Delhi: Prentice Hall of India (P) Ltd.

Levy, H. and Sarnat, M. (1989). **Principles of Financial Management.** New Jersey: Prentice Hall Inc.

Moyer, R.C., McGuigan, JR. and William, J.K. (2003). **Contemporary Financial Management.** New York: West Publishing Company.

Pradhan, R.S. (1992). **Financial Management Practices in Nepal.** New Delhi: Vikash Publishing House.

Ross, S.A., Westerfield R.W. and Jordan, B.D. (2004). **Fundamentals of Corporate Finance.** New Delhi: Tata McGraw-Hill Publishing Company Ltd.

Shapiro, AC. and Sheldon, D.B. (2003). **Modern Corporate Finance**: A Multidisciplinary Approach to Value Creation. New Delhi: Pearson Education.

Weston, J.F. and Thomas, E.C. (1992). **Managerial Finance.** New York: The Dryden Press.

New Model Questions

Time: 4hrs **Full Marks: 100**

Group A (Short Answer Questions) **60**

Attempt any SIX questions. The questions are of equal value.

1. Indicate whether the following statements are 'True or False' and also support your answer with reasons:
   a. By factoring, the firm is still required to maintain credit department.
   b. Income bonds are the bonds where interest itself is not a fixed charge.
   c. Holding convertibles entail less risk than holding straight debt.

Ans: a. F; b. T; c. F

2. Explain the MM hypothesis on capital structure.
3. Explain the advantages and disadvantages of convertibles.
4. Blackberry Departmental Stores is a chain of appliance stores. It needs to finance all of its inventories, which average the following during the four quarters of the year (in thousands):

Quarter	1	2	3	4
Inventory level (in '000 Rs.)	1,600	2,100	1,500	3,200

The firm presently utilizes a finance company loan secured by a floating lien. The interest rate is the prime rate plus 7.5 percent, but no additional expenses are incurred. The Nepal Bank Ltd. is bidding for the firm business. It has proposed a trust receipt financing arrangement. The interest rate will be 2.5 percent above the primer rate, with servicing costs of Rs. 20,000 each quarter. Should the company switch financing arrangements?

Ans: Cost of floating loan = Rs.157,500; Cost of trust receipt loan = Rs.132,500

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5. (a) Himalayan Machine & Tools Ltd. (HMT) produces agricultural machines, which have five-year lives. HMT is willing to either sell the machines for Rs. 30,000 or lease them at a rental that, because of competitive factors, yields an after-tax return to HMT of 6 percent - its cost of capital. What is the company's competitive lease-rental rate? Assume straight-line depreciation, zero salvage value, and effective corporate tax rate of 40 percent.
   (b) Kathmandu Machine Shop (KMS) is contemplating the purchase of a machine exactly like those rented by HMT. The machine will produce net benefits of Rs. i 0,000 per year. KMS can buy the machine for Rs. 30,000 or rent it from HMT at the competitive lease rental rate. KMS's cost of capital is 12 percent, its cost of debt 10 percent, and T = 40 percent. Which alternative is better for KMS?
   (c) If HMT's cost of capital is 9 percent and competition exists among lessors, what will happen to lessor's lease-rental rate? Will KMS's decision be altered?

Ans: (a) L_1 = Rs. 7,869.718 (b) PV of leasing = Rs. 19,890 PV of purchasing = 19,890 lease (c) Lt = Rs. 8,854 PV of leasing Rs. 22,377

6. The stock of the National Business Machines (NBM) is selling for Rs.150 per share. The company then issues rights to subscribe to one new share at Rs. 140 for each four rights held.
   (i) What is the theoretical value of a right when the stock is selling rights-on?
   (ii) What is the theoretical value of one share of stock when it goes ex-rights?
   (iii) What is the theoretical value of a right when the stock sells ex-rights at Rs.150?
   (iv) Mr. K. Singh has Rs. 10,000 at the time the company's stock goes ex-rights at Rs.150 per share. He feels that the price of the stock will rise to Rs. 180 by the time the rights expire. Compute his return on his Rs.10,000 if he (1) buys company's stock at Rs.150, or (2) buys the rights at the price computed in (iii) above, assuming his price expectations are valid.
   (v) Explain whether buying rights or shares is more profitable.

Ans: (i) Rs 2 (ii) Rs 148 (iii) Rs 2.50 (iv) (1) 20%(2) 300%

7. The common stock of the NCELL earns Rs. 2.50 per share, has a dividend payout of two thirds, and sells at a price earning 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 one million common shares outstanding and has a 50 percent tax rate.
   (i) What is the conversion price?
   (ii) What is the conversion ratio per Rs. 1000 debenture?
   (iii) What is the initial conversion value of each debenture?
   (iv) How many new shares of common must be issued if all debentures are converted?

Ans: (i) Rs. 48 (ii) 20.833 shares (iii) Rs.833.30 (iv) 208,333 new shares

8. Write notes on (Any two):
   a. Exchangeable debt
   b. Venture capital
   c. Dividend payout irrelevance

Group B (Comprehensive Answer Questions) **40**

Attempt any TWO questions.

9. Discuss the various types of secured and unsecured bonds.
10. Investment Bank Limited has a Rs. 80 million 15-year debentures outstanding, which has an 11 percent annual coupon and 10 years remaining to maturity. This issue, which was sold 5 years ago, had flotation costs of Rs.2 million, which the firm has been amortizing on a straight-line basis over the 15-years original life of the issue. The debenture has a call provision, which makes it possible for the company to retire the debentures at this time by calling the bonds in at a 8% call premium.
    Investment bankers have assured the company that it could sell an additional Rs.80 million worth of new annual coupon 10-year debentures at an interest rate of 9 percent. To ensure that the funds required to pay off the old debt will be available, the new debentures 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 4 percent; for the one-month overlap period, proceeds from the new issue will be invested in short-term securities. Predictions are that long-

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term interest rates are unlikely to fall below 11 percent. Floatation costs on a new refunding issue would amount to Rs.1.5 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. Should the company refund old high yielding issue and replace it by new low yielding bonds?

Ans: Initial outlay Rs.5,086,666.67; Annual cash flows savingRs.966,666.67; NPV Rs.2,234,770.022

11. The Mechi Rice Company is currently valued at Rs 500,000. Seventy percent of current value is the face value of pure discount debt, all of which will mature in four years. The variance of percentage returns is 56.25 percent. The risk-free rate is 12 percent.
    a. Determine the market value of the equity.
    b. Determine the market value of the debt.
    c. What is the yield to maturity on the debt?

Ans: (a) Rs.360,463.396 (b) Rs. 139,536. 604 (c) 25.84%

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1. INTRODUCTION

MBS

1. 2070 Q.No. 2

Differentiate between capital structure and financial structure, and explain main features of optimal capital structure. [10]

2. 2070 Old Q.No. 1

Define capital structure and financial structure. Explain the factors affecting capital structure decision of a firm. [10]

3. 2068 Q.No. 2

Describe the various factors affecting capital structure of the firm. Which of these factors are more important in Nepalese firms? [10]

4. 2068 Old Q.No. 1

Explain the role of capital structure management in maximization of shareholder's wealth. [10]

5. 2067 Q.No. 2

What is optimal capital structure? Explain its major features. [8]

6. 2067 Q.No. 1 (Old)

Describe the various factors affecting capital structure of the firm. Which of these factors, do you think, are more important in Nepalese firms? [10]

7. 2066 Q.No. 1

What is the goal of capital structure management? Explain the major features of optimal capital structure that you would consider while designing capital structure. 10

8. 2063 Q.No. 2

What are the various factors affecting in the decision of the capital structure management? [10]

9. 2060 Q.No. 1

Describe the various factors affecting capital structure of the firm. Which of these factors are more important in Nepalese firms? [10]

10. 2059 Q. No. 1

What is the role of capital structure management in maximization of shareholder wealth? [10]

11. 2058 Q.No. 1

Explain the various factors affecting capital structure of a firm. [20]

MBA

12. 2055 Q.No. 1 a

Is the optimal capital structure the one that maximizes expected earnings per share? Explain.[10]

13. 2052 Q.No. 1

Describe the various factors affecting the capital structure of the firm. Which of these factors are more important in the Nepalese context? [20]

14. 2046 Q.No. 1

What are the various decision facing capital structure management? Describe important features of capital structure management in Nepalese corporations. [20]

15. 2045 Q.No. 1

Why does a firm need optimal capital structure? What are the factors that affect the capital structure of a firm? Discuss? [20]

16. 2044 Q.No. 1

What do you understand by optimal capital structure? What is its significance for a firm? [20]

17. 2041 Q.No. 1

Discuss the various factors that affect capital structure of a firm in Nepal. [20]

18. 2040 Q.No. 1

Explain the concept of optimal capital structure for a corporate organization. What are the problems in having such capital structure? [20]

2. SHORT-TERM FINANCING

MBS

THEORETICAL QUESTIONS

1. 2070 Old Q.No. 2a

Explain the difference between pledging and factoring receivable. [4]

2. 2068 Q.No. 3

Discuss the various arrangements that can be made when pledging inventory as collateral. Under what conditions would one method be preferred over others? [10]

3. 2064 Q.No. 4 a

Explain the difference between pledging and factoring receivables. [5]

4. 2061 Q.No. 2

Discuss the various arrangements that can be made when pledging inventory as collateral. Under what conditions would one method is preferred over others. [10]

5. 2060 Q.No. 2

Discuss the various arrangements that can be made when pledging inventory as collateral. Under what conditions would one method be preferred over others? [10]

- **Write short notes on:**

6. 2070 Q.No. 8c

Factoring account receivable [5]

7. 2070 Old Q.No. 6a

Commercial paper [5]

8. 2069 Old Q.No. 6c

Factoring receivables [5]

9. 2067 Q.No. 8a /2058 Q.No. 6 a/ 2058 Q.No. 10 a

Factoring [5]

10. 2064 Q.No. 6 b

Commercial Paper Market [5]

11. 2063 Q.No. 6 a

Revolving credit [5]

12. 2059 Q.No. 6 a

Chattel mortgage [5]

NUMERICAL QUESTIONS

13. 2070 Q.No. 6

The ABC Company needs to finance in inventories of Rs.400,000. The funds are needed for six months. The company is considering the following possibilities:

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i. Terminal warehouse receipt loan from a finance company. Terms are 12 percent annualized with an 80 percent advance against the value of the inventory. The warehousing costs are Rs.7,000 for the six month period. The residual financing requirement, which is Rs.400,000 less the amount advanced, will need to be financed by forgoing cash discounts on its payables. Standard terms are 2/10, net 30; however, the company feels it can postpone payment until the 40th day without adverse effect. Assume 365 days in a year.

ii. A floating lien arrangement from the supplier of the inventory at an effective interest rate of 20 percent. The supplier will advance the full value of the inventory.

iii. A field warehouse loan from another finance company at an interest rate of 10 percent annualized. The advance is 70 percent, and field warehousing costs amount to Rs.10,000 for the six-month period. The residual financing requirement will need to be financed by forgoing cash discounts on payables as in the first alternative.

a. Compute cost of each alternative.

b. Which is the least costly method of financing the inventory needs of the firm? [10]

Ans: (a) (i) Rs.36,132 (ii) Rs. 40,000 (iii) Rs.38,898 (b) terminal warehouse receipt loan

14. 2070 Old Q.No. 2b

Delta Company wishes to borrow Rs.100,000 for 1 year. It must choose one of the following alternatives.

i. 9 percent loan on a collected basis, with face value due at end.

ii. 8.4 percent loan on a discount basis, with face value due at the end.

iii. 6 percent loan on an add on basis, with equal quarterly payments required on the initial face value.

Which alternative has the lowest effective yield, using annual compounding for the first two and quarterly compounding for the last? [6]

Ans: (i) 9% (ii) 9.17% (iii) 9.86%; Alternative i

15. 2069 Q.No. 4

Kathmandu Bell needs to finance a seasonal bulge in inventories of Rs. 800,000. The funds are needed for 6 months. The company is considering the following possibilities. [10]

a. Terminal warehouse receipt loan from a finance company. Terms are 10 percent annualized with an 80 percent advance against the value of the inventory. The warehousing costs are Rs. 8,000 for the 6-month period. The residual financing requirement, which is Rs. 800,000 less the amount advanced, will need to be financed by forgoing cash discounts on its payables. Standard terms are 2/10, net 30; however, the company feels it can post pone payment until the fortieth day without adverse effect.

b. A floating lien arrangement from the supplier of the inventory at an effective interest rate of 18 percent. The supplier will advance the 90 percent of value of the inventory.

c. A field warehouse loan from another finance company at an interest rate of 12 percent annualized. The advance is 60 percent and field warehousing costs amount to Rs. 4,000 for the 6-month period. The residual financing requirement will need to be financed by forgoing cash discounts on payables as in the first alternative.

i. Which is the least costly method of financing the inventory needs of the firm? Use 360 days in a year.

ii. Is the source with the lowest expected cost necessarily the source to select? Why or why not?

Ans: a. Rs. 59,592 b. Rs. 64,800 c. Rs. 71,984

16. 2069 Old Q.No. 5

Suppose your firm negotiates a 91-day Rs. 9,000,000 line of credit with a bank. The bank charges 1/2 of 1 percent annual commitment fee on the unused portion of the line of credit. An annual interest rate of prime plus 1 percent is charged on used portion of the loan. During 91 days period, prime rate is 10 percent. For first 30 days, your firm borrows Rs. 100,000 line of credit, for the remaining 61 days Rs. 400,000 in short-term financing is obtained.

i. Determine commitment fee and interest per period.

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ii. Determine annualized and effective cost of line of credit.

iii. How line of credit is considered to be source of short-term finance? [10]

Ans: (i) commitment fee = Rs. 3,657.53 and Rs. 7,186.30; interest = Rs. 904.11 and Rs. 7,353.42(ii) 25.08%27.96%

17. 2068 Q.No. 4

Everest Textiles needs an additional Rs 1000,000. The financial manager is considering two methods of obtaining this money: a loan from a commercial bank or a factoring arrangement. The bank charges 10 percent per annum interest, discount basis. It also requires a 10 percent compensating balance. The factor is willing to purchase the firm's accounts receivable and to advance the invoice amount less a 2 percent factoring commission on the invoices purchased each month. (All sales are on 30-day terms.) A 15 percent annual interest rate will be charged on the total invoice price and deducted in advance. Also, under the factoring agreement, the firm can eliminate its credit department and reduce credit expenses by Rs 1,000 per month. Bad losses of 3 percent on the factored amount can also be avoided.

a. How much should the bank loan be in order to net Rs 1000,000? How much accounts receivable should be factored to net Rs 1000,000?
b. What are the computed interest rates without considering credit department expenses and bad debt losses, associated with each financing arrangement?
c. What are the annual total rupee costs without considering credit department expenses and bad debt losses, associated with each financing arrangement?
d. What would be the one when credit department expenses and bad debt losses are considered?
e. Discuss some considerations other than cost that may influence management's decision between factoring and bank loan. [10]

Ans: (a) Rs 1,250,000 and Rs.1,033,591.73 (b) 12.5% and 40.31% (c) Rs.125,000 and Rs 403,100.7744 (d) Rs.125,000 and Rs 19,007.7516; 12.5% and 1.9%

18. 2068 Old Q.No. 3

Nepal Sitara Company needs an additional Rs. 1,500,000. The financial manager is considering two methods of obtaining this money.

a. A loan from a commercial bank: The bank charges 12 percent per annum interest, discount basis. It also requires a 15 percent compensating balance.
b. Under the factoring arrangement, the factor is willing to purchase Sitara's accounts receivables and to advance the invoice amount less a 2 percent factoring commission on the invoices purchased each month. All sales are on 30-day terms. A 10 percent annual interest rate will be charged on the total invoice price and deducted in advance. Also, under this agreement, firm can eliminate its credit expenses by Rs 2,500 per month. Bad debt losses of 10 percent on the factored amount can also be avoided.
   i. How much should the bank loan be to net Rs 1,500,000? How much Accounts receivable should be factored to net Rs 1,500,000?
   ii. What are the computed interest rates and annual total rupee costs, including credit department expenses and bad debt losses, associated with each financing arrangement?
   iii. Which alternative is appropriate to obtain loan to the company? Why? [10]

Ans: (i) Rs 2,054,794.52 and Rs.1,543,686.32 (ii) 16.44% and -90.50%; Rs.246,575.3424 and - Rs 1,357,570.24

19. 2067 Q.No. 4

Nepal Gas estimates that due to the seasonal nature of its business, it will require an additional Rs. 2 million of cash for the month of June. The company has four options available to provide the needed funds.

a. Establish a one-year line of credit for Rs. 2,000,000 with a commercial bank. The commitment fee will be 1 percent and the interest charge on the used funds will be 10 percent per annum. The minimum time the funds can be used is 30 days.
b. Forego the July trade discount of 3/10, net 45 on Rs. 20,00,000 of accounts payable.

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d. Issue Rs. 20,00,000 of 60-day commercial paper at a 8 percent per annum interest rate. Since the funds are required for only 30 days, the excess funds (Rs. 20,00,000) can be invested in 5 percent per annum marketable securities for the month of July. The total transaction fee on purchasing and selling the marketable securities is 1 percent of the fair value.

i. Which financial arrangement results in the lowest cost?

ii. Is the source with the lowest expected cost necessarily the source to select? Why or why not? [8]

Ans: (i) Rs 35,000; Rs 53,016.67; Rs 33,333.33; Rs 38,333.34

20. 2067 Q.No. 4 (Old)

Nepal Canning industries is considering the following two alternatives for financing next year's canning operations:

a. Borrow from the bank under the line of credit Rs. 2 million with a 2 percent interest rate on the used amount at the end of each month and 3 percent per annum commitment fee rate on the unused portion. A Rs. 300,000 compensating balance will be required at all times on the entire credit line.

b. Another alternative is to use trust receipt loan to finance the inventory. Financing charges will be a flat fee of Rs. 100,000, plus 3 percent of the maximum amount of credit extended, plus a 12 percent annual interest rate on all outstanding credit. The company has Rs. 300,000 funds available for inventory financing. All financing is done on the first of the month and is sufficient to cover the value of the expected month-end inventory levels are given below:

Month	Borrowing (Rs.)
July 2009	300,000
Aug. 2009	800,000
Sep. 2009	1,200,000
Oct. 2009	1,600,000
Nov. 2009	2,000,000
Dec. 2009	1,500,000
Jan. 2010	1,200,000
Feb. 2010	900,000
Mar. 2010	700,000
April 2010	450,000
May 2010	200,000
June 2010	–

Which financing plan has the lower cost? [10]

Ans: Total cost = Rs 249,875 and Rs 227,500

21. 2066 Q.No. 4

Alpha Beta Toy Company Manufacturers plastic toys. It buys raw materials, manufactures the toys in the spring and summer, and ships them to a large number of department stores and toy stores by late summer or early fall. The company factors its receivables. If it did not, company's balance sheet would have appeared as follows:

Balance Sheet (Millions of Rupees)

Cash	Rs. 40,000	Accounts payable	Rs. 1,200,000
Receivables	1,200,000	Notes payable	800,000
Inventory	800,000	Accruals	80,000
Total current assets	2,040,000	Total current debt	2,080,000
Fixed assets	800,000	Mortgages	200,000
		Common stock	400,000
		Retained earnings	160,000
Total assets	2,840,000	Total claims	2,840,000

The company provides dating on its sales; thus, its receivables are not due for payment until 90

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days after purchase. Also, the company would have been overdue on some Rs. 800,000 of its accounts payable if the above situation actually existed.

The company has an agreement with a finance company to factor the receivables for the quarterly periods. The factoring company charges a flat commission of 1.5 percent, plus interest at 3 points over the prime rate (15 percent) on the outstanding balance. It deducts a reserve of 15 percent for retuned and damaged materials. Interest and commission are paid in advance. No interest is charged on the reserved funds or on the commission.

a. Show the balance sheet of the company on March 31, 19×0, giving effect to the purchase of all the receivables by the factoring company and the use of the funds to pay accounts payable.
b. If the Rs. 1.2 million is the average level of outstanding receivables and if they turn over four times a year (hence, the commission is paid four times a year), what are the total rupee costs of financing and the computed annual interest rate?
c. What are the advantages to the company of using factoring, as opposed to discounting its receivables?

Ans: (a) Total assets = Rs. 1,865,090; Net proceeds = Rs. 9,56,910 (b) Rupee cost = Rs. 252,360; EAR = 29.09% (c) Advantages less risky and avoid bad debt losses and cost of credit department.

22. 2065 Q.No. 4

The international company has just acquired a large account. As a result, it needs an additional Rs.90,000 in working capital immediately. It has been determined that there are three feasible sources of funds. 10

a. The company buys about Rs.60,000 of materials per month on terms of 3/30 net 90. Discounts are taken.
b. The firm's bank will lend Rs.120,000 at 12 percent. A 10 percent compensating balance will also be required.
c. A factor will buy the company's receivables (Rs.100,000 per month), which have a collection period of 60 days. The factor will advance up to 75 percent of the face value of the receivables at 12 percent on an annual basis. The factor will also charge a 2 percent fee on all receivables purchased. It has been estimated that the factor's services will save the company a credit department expenses and bad debt expenses of Rs.1,500 per month.

On the basis of annual percentage cost, which alternative should International select?

Ans: (a) 18.81% (b) 13.33% (c) 20%

23. 2064 Q.No. 4 b

The New Textile Industry needs an additional Rs. 2,500,000, which it plans to obtain through a factoring arrangement. The factory would purchase New Textile's accounts receivable and advance the invoice amount, less 2 percent commission, on the invoice purchased each month. (New Textile sells on terms of net 30 days). In addition, the factory charges 16 percent annual interest on the total invoice amount, to be deducted in advance.

(i) What amount of account receivable must be factored to net Rs. 2,500,000?
(ii) If New Textile can reduce credit expenses by Rs. 15,000 per month and avoid bad-debt losses of 3 percent on the factored amount, what is the total rupee cost of the factoring arrangement? [5]

Ans: (i) 2,586; 117.72 (ii) Net savings = 6,376.61

24. 2063 Q.No. 3

The Everest Plastic Company manufactures plastic toys. It buys raw material, manufactures the toys in the spring and summer, and ships them to a large number of department stores and toy stores by late company's balance sheet would have appeared a follows:

Everest Plastic Company
Pro-forma Balance Sheet as of December 3

Assets	Rs.	Liabilities	Rs.
Cash	40,000	Accounts payable	1,200,000
Receivables	1,200,000	Notes payable	800,000
Inventory	800,000	Accruals	80,000

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Total current assets	2,04,000	Total current debt	2,08,000
Fixed assets	800,000	Mortgages Common stock Retained earnings	200,000 400,000 160,000
Total assets	2,840,000	Total claims	2,840,000

Everest Plastics Company provides dating on its sales, thus, its receivables are not due for payment until 90 days after purchase. Also, the company would have been overdue on some Rs. 800,000 of its accounts payable if the above situation actually existed.

Everest Plastics Company has an agreement with a finance company to factor the receivables for the quarterly periods. The factoring company charges a flat commission of 1.5 percent, plus interest at 3 points over prime rate (15 percent) on the outstanding balance. It deducts a reserve of 15 percent for returned and damaged materials. Interest and commission are paid in advance. No interest is charged on the reserved funds or on the commission.

a. Show the balance sheet of Everest Plastic Company on December 31, 2004, giving effect to the purchase of all receivables by the factoring company and the use of the funds to pay accounts payable.
b. If Rs. 1.2 million is the average level of outstanding receivables and if they turnover four times a year (hence, the commission is paid four times a year), what are the total rupee costs of financing and the compound annual interest rate?
c. What are the advantages to Everest Plastics of using factoring, as opposed discounting its receivables? [4+4+2]

Ans: (a) Total assets = Rs. 1,865,090; Net proceeds = Rs. 9,56,910 (b) Rupee cost = Rs. 252,360; EAR = 29.09% (c) Advantages less risky and avoid bad debt losses and cost of credit department.

25. 2062 Q.No. 4 b

The Relax Furniture Company is considering factoring its receivable. The average level of receivables is Rs. 4,000,000 and its average collection period is 70 days. Relax's bad-debt losses average Rs. 90,000 per month. (Assume 30 days per month). Factoring receivables will save the company Rs. 3,000 per month through the elimination of its credit department. The factor charges a 2 percent commission and requires a 10 percent reserve for returns and allowances. Relax Furniture Company can borrow funds from the factor at 3 percentage points over prime rate, which is currently 9 percent, determine the amount of usable funds that Relax Furniture Company can obtain by factoring its receivables. Calculate the annual financing cost of this arrangement. 5

Ans: Rs. 3,437,866.70 and (282,171.45)

26. 2061 Q.No. 9

National Ltd. Company is a construction supply company. The company will be facing a tight cash flow situation for the next several months. The company usually runs amount Rs. 3 million per year in sales. But because of high interest rates and a slump in the economy, revenues and cash flow are expected to drop off substantially. As such, the company has decided that the best thing to do is to meet the cash flow by building up current liabilities. The company has three options.

Option 1: Start passing up cash discount and instead make payment on trade credit on the net due dates all the company's suppliers extend credit terms 1.5/, net 30

Option 2: Start stretching payables beyond the net due dates by making payments 15 days late".

Option 3: Take out a 6 months loan at the bank the company will need a minimum of Rs. 200,000 and a loan can be obtained at 14 percent interest, with a compensating balance requirement of 25 percent. Because of the company's present cash flow situation, it is expected the firm's normal checking account balance will drop to about Rs. 10,000. Which arrangement should company choose? Why? In additional to cost, are there any other factors that should be considered in this decision? Explain. [20]

Ans: Cost of option 1 = 27.79%, Cost of option 2 = 15.88%, Cost of option 3 = 17.5%

Question Bank Nepal

27. 2060 Q.No. 3

International Insulation Company has been growing rapidly, but because of insufficient working capital, it has now become slow in paying bills. Of its total accounts payable, Rs.96,000 is overdue. This threatens the company's relationship with its main supplier of powders used in the manufacture of various kinds of insulation materials for aircraft and missiles. Over 75 percent of its sales are to six large, financially strong defense contractors. The company's balance sheet, sales, and net profit for the past year are shown below. [10]

Balance Sheet
International Insulation Company

Cash	Rs.28,800	Trade credit*	Rs.240,000
Receivables	320,000	Bank loans	192,000
Inventories		Accruals	48,000
Raw material	38,400	Total current debt	Rs.480,000
Work in process	192,000	Mortgages on equipment	288,000
Finished goods	57,600	Capital stock	96,000
Total current assets	Rs.636,800	Retained earnings	96,000
Equipment	323,200		
Total assets	Rs.960,000	Total liabilities & net worth	Rs.960,000
Sales	Rs.1,920,000		
Profit after taxes	96,000		

The company is considering two alternative methods to solve its payments problem: factoring and receivables financing. Additional information follows.

Receivables turn over six times a year. All sales are made on credit. The factor requires a 15 percent reserve for returns on disputed items. The factor also requires a 1.5 percent commission on average receivables outstanding, payable at the time the receivable is purchased, to cover the costs of credit checking. There is an interest charge by the factor at the prime rate (12 percent) plus 3 percent based on receivables *less* any reserve requirements and commissions. This payment is made at the beginning of the period and is deducted from the advance. Receivables financing would involve the same costs as factoring except the factoring commission and a 20 percent reserve rather than 15 percent under factoring.

(a) When sales are Rs.1,920,000, on average, what is the total amount of receivables outstanding?
(b) What is the average duration of advances, on the basis of 360 days a year?
(c) How much cash does the firm actually receive under factoring as compared with receivables financing?
(d) What is the total annual rupee cost of financing under factoring as compared with receivables financing?
(e) Which method of financing should Shandow utilize?

Ans: (a) Rs. 3,20,000 (b) 60 days, (c) Under fatroing = Rs. 2,61,222 under receivable financing = Rs. 2,49,600 (d) total cost under factoring = Rs. 64,608 under receivable financing = 38,400 (e) BAR under factoring = 27.46% under receivable financing = 16.40% (f) Utilized receivable financing in case it has lower EAR.

28. 2059 Q.No. 3

Nepal Packaging Company is considering the following two alternatives for financing next year's canning operations: [10]

(a) Establishing a Rs.1 million line of credit with a 1 percent interest rate on the used amount at the end of each month and a 1 percent per annum commitment fee rate on the unused portion (0.0833 percent on unused amount at the end of each month). A Rs.150,000 compensating balance will be required at all times on the entire Rs.1 million line.
(b) Using field warehousing to finance the inventory. Financing charges will be a flat fee of Rs.500, plus 2 percent of the maximum amount of credit extended, plus a 10 percent annual interest rate (0.833 percent on amount outstanding at the end of each month) on all outstanding credit.

The company has Rs.150,000 of funds available for inventory financing. All financing is done on the first of the month and is sufficient to cover the value of the expected inventory at the end

of the month. Expected month-end inventory levels are given below.

Month	Amount	Month	Amount
July 19X0	Rs.150,000	January 19X1	Rs. 600,000
August	400,000	February	450,000
September	600,000	March	350,000
October	800,000	April	225,000
November	1,000,000	May	100,000
December	750,000	June	0

Which financing plan has the lower cost?

Ans: Cost of line of credit = Rs. 59,726.975, Cost of field warehousing = Rs. 49,362.55, Field warehousing has lower cost.

29. 2058 Q.No. 3

National Batteries Inc. estimates that due to the seasonal nature of its business, it will require an additional Rs. 200,000 of cash for the month of July. It has four options available to provide the needed funds. It can

a. Establish a one–year line of credit for Rs. 200,000 with a commercial bank. The commitment fee will be 0.5 percent, and the interest charge on the used funds will be 15 percent per annum. The minimum time the funds can be used is 30 days.
b. Forego the July trade discount of 2/10, net 40 on Rs.200,000 of accounts payable.
c. Issue Rs.200,000 of 60-day commercial paper at a 13.8 percent per annum interest rate.
d. Issue Rs.200,000 of 60-day commercial paper at a 14 percent per annum interest rate. Since the funds are required for only 30 days, the excess funds (Rs.200,000) can be invested in 13 percent per annum marketable securities for the month of August. The total transaction fee on purchasing and selling the marketable securities is 0.5 percent of the fair value.
e. Which financial arrangement results in the lowest cost? Is the source with the lowest expected cost necessarily the source to select? Why or why not? [10]

Ans: (a) Cost of line credit = Rs. 3,416.67, Cost and trade credit = Rs. 4,000, cost of 30 day commercial paper = Rs. 2,300, Cost of 60 days commercial paper = Rs. 3,500 (b) No qualitative factors like risk, credit restrictions, flexibility and reliability should also considered.

MBA

THEORETICAL QUESTIONS

30. 2058 Q.No. 2

Describe the various forms of short-term financing available to a firm. [20]

31. 2056 Q.No. 1

Discuss trade credit as a source of funds to a firm. [20]

32. 2055 Q.No. 1 b

Discuss if trade credit and accruals represent a spontaneous source of capital for financing growth? [10]

33. 2055 Q.No. 2

Describe the methods of receivables financing. [20]

34. 2054 Q.No. 1

a. The availability of bank credit is often more important to a small firm than to a large one, why?[10]
b. Explain the advantages and disadvantages of using commercial paper by a firm? [10]

35. 2054 Q.No. 2

Describe the methods of inventory financing. [20]

36. 2053 Q.No. 1

a. Explain the important factors that should be considered when choosing the bank? [10]
b. Differentiate between pledging account receivable and factoring accounts receivable. [10]

37. 2052 Q.No. 2

Discuss trade credit as a means of financing? What factors influence the length of credit terms?[20]

Question Bank Nepal

38. 2051 Q.No. 2

Describe how can a firm obtain loans against assignment of receivables. [20]

39. 2050 Q.No. 2

Describe how can a firm obtain loans against assignment of receivables. [20]

40. 2048 Q.No. 2

Describe how can a firm obtain loans against inventories. [20]

41. 2046 Q.No. 3

Discuss the various arrangements that can be made when pledging inventory as collateral. Under what conditions would one method is preferred over others. [20]

42. 2045 Q.No. 2

Examine the significance of short-term financing to a firm. Discuss the various sources of short-term financing in Nepal. [20]

43. 2044 Q.No. 2

Examine the role of commercial banks in providing short-term finance to enterprise in Nepal. Also point out the problems that an enterprise faces while obtaining short-term credit from these bank. [20]

44. 2041 Q.No. 2

Why does a firm short term credit? What are the factors that a firm should consider in choosing a bank for such capital? [20]

45. 2040 Q.No. 7

Discuss the effectiveness of the role of commercial banks in meeting the working capital needs of business enterprises. [20]

Write short notes on:

46. 2056 Q.No. 10 a/2050 Q.No. 10 a

Commercial paper [10]

47. 2055 Q.No. 10 a

Terminal warehouse receipt loan [10]

48. 2052 Q.No. 10 b

Receivables financing [10]

49. 2051 Q.No. 10 a

Line of credit [10]

50. 2050 Q.No. 10 b

Apportionment of income [10]

51. 2045 Q.No. 10 b/ 2048 Q.No. 10 a

Bankers' acceptance [10]

52. 2048 Q.No. 10 b

Terms of loan agreement [10]

53. 2046 Q.No. 10 a

Trade credit financing [10]

54. 2045 Q.No. 10 a

Warehouse financing [10]

55. 2044 Q.No. 10 a

Trade credit [10]

56. 2044 Q.No. 10 b

Compensating balance [10]

57. 2040 Q.No. 10 a

Inventory financing [10]

Question Bank Nepal

NUMERICAL QUESTIONS

58. 2059 Q.No. 5 a

Pokhara Supermarket Company is expanding its chain of retail liquor stores. This program will require capital expenditures of Rs.3 million, which must be financed. The company has settled on a three-year revolving credit of Rs.3 million, which may be converted into a three-year term loan at the expiration of the revolving credit commitment. The commitment fee for both credit arrangements is 0.50 percent of the unused portion. The bank has quoted the company an interest rate of 1 percent over prime for the revolving credit and 1½ percent over prime for the term loan, if that option is taken. The company expects to borrow Rs.1.4 million at the outset and another Rs.1.6 million at the very end of the first year. At the expiration of the revolving credit, the company expects to take down the full term loan. At the end of each of the fourth, fifth, and sixth years, it expects to make principal payments of Rs.1 million.

a. For each of the next six years, what is the expected commitment fee in rupees?

b. What is the expected rupee interest cost above the prime rate? [10]

Ans: (a) Rs. 14,000, Rs. 30,000 and Rs. 30,000 (b) Rs. 45,000, Rs. 30,000, Rs. 15,000

59. 2058 Q.No. 5

Nepal Canning Company is considering the following two alternatives for financing next year's canning operations:

(a) Establishing a Rs.1 million line of credit with a 1 percent interest rate on the used amount at the end of each month and a 1 percent per annum commitment fee rate on the unused portion (0.0833 percent on unused amount at the end of each month). A Rs.150,000 compensating balance will be required at all times on the entire Rs.1 million line.

(b) Using field warehousing to finance the inventory. Financing charges will be a flat fee of Rs.500, plus 2 percent of the maximum amount of credit extended, plus a 10 percent annual interest rate (0.833 percent on amount outstanding at the end of each month) on all outstanding credit.

The company has Rs.150,000 of funds available for inventory financing. All financing is done on the first of the month and is sufficient to cover the value of the expected inventory at the end of the month. Expected month-end inventory levels are given below.

Month	Amount	Month	Amount
July 19X0	Rs.150,000	January 19X1	Rs. 600,000
August	400,000	February	450,000
September	600,000	March	350,000
October	800,000	April	225,000
November	1,000,000	May	100,000
December	750,000	June	0

Which financing plan has the lower cost? [20]

Ans: Cost of line of credit = Rs. 59,726.975, Cost of field warehousing = Rs. 49,362.55, Field warehousing has lower cost.

60. 2057 Q.No. 5

International Insulation Company has been growing rapidly, but because of insufficient working capital, it has now become slow in paying bills. Of its total accounts payable, Rs.96,000 is overdue. This threatens Company's relationship with its main supplier of powders used in the manufacture of various kinds of insulation materials for aircraft and missiles. Over 75 percent of its sales are to six large, financially strong defense contractors. The company's balance sheet, sales, and net profit for the past year are shown below.

Balance Sheet: International Insulation Company

Cash	Rs.28,000	Trade credit	Rs.240,000
Receivables	320,000	Bank loans	192,000
Inventories		Accruals	48,000
Raw material	38,400	Total current debt	Rs.480,000
Work in process	192,000	Mortgages on equipment	288,000
Finished goods	57,600	Capital stock	96,000

Total current assets	Rs.636,800	Retained earnings	96,000
Equipment	323,200		
Total assets	Rs.960,000	Total liabilities & net worth	Rs.960,000

The company is considering two alternative methods to solve its payments problem: factoring and receivables financing. Additional information follows.

Receivables turn over six times a year. All sales are made on credit. The factor requires a 15 percent reserve for returns on disputed items. The factor also requires a 1.5 percent commission on average receivables outstanding, payable at the time the receivable is purchased, to cover the costs of credit checking. There is an interest charge by the factor at the prime rate (12 percent) plus 3 percent based on receivables *less* any reserve requirements and commissions. This payment is made at the beginning of the period and is deducted from the advance. Receivables financing would involve the same costs as factoring except the factoring commission and a 20 percent reserve rather than 15 percent under factoring.

(a) When sales are Rs.1,920,000, on average, what is the total amount of receivables outstanding?
(b) What is the average duration of advances, on the basis of 360 days a year?
(c) How much cash does the firm actually receive under factoring as compared with receivables financing?
(d) What is the total annual rupee cost of financing under factoring as compared with receivables financing?
(e) What is the annual effective percentage financing cost paid on the money received under factoring as compared with receivables financing?
(f) Which method of financing should the company utilize? [20]

Ans: (a) Rs. 3,20,000 (b) 60 days, (c) Under fatroing = Rs. 2,61,222 under receivable financing = Rs. 2,49,600 (d) total cost under factoring = Rs. 64,608 under receivable financing = 38,400 (e) BAR under factoring = 27.46% under receivable financing = 16.40% (f) Utilized receivable financing in case it has lower EAR.

61. 2056 Q.No. 5

a. The Kathmandu copper corporation has sales of Rs. 3 million last year and earned a 5 percent return, after taxes, on sales. Although its terms of purchase are 20 days, its accounts payable represent 60 days' purchases. Suppliers are threatening to cut off the firm's purchases, so the firm's president is seeking to increase, the company's bank borrowings in order to become current (that is, have 20 days payables outstanding) in meeting its trade obligations. The company's balance sheet is shown below (in thousands of Rs.):

Balance Sheet

Assets	Rs.	Liabilities	Rs.
Cash	25	Accounts payables	300
Accounts receivables	125	Bank loan	250
Inventory	650	Accruals	125
Current assets	800	Current liabilities	675
Land and buildings	250	Mortgage on real estate	250
Equipment	250	Common stock. par	125
		Retained earnings	250
Total	**1,300**	**Total**	**1,300**

i. How much financing is needed to eliminate past due accounts payable?
ii. Would you, as a bank loan officer, make the loan? Why? [10]

b. The Minimax Company is able to sell Rs.1 million of commercial paper every three months at a rate of 10 percent and a placement cost of Rs. 3,000 per issue. The dealers require The company to maintain bank lines of credit demanding Rs. 100,000 in bank balances, which otherwise would not be held. The company has a 40 percent tax rate. What do the funds from commercial paper cost the company after taxes? [10]

Ans: (a) (i) Rs. 2,00,000 (b) 7.46%

Question Bank Nepal

62. 2055 Q.No. 5

a. National Sugar Company has Rs. 5 million revolving credit agreement with First State Bank Ltd. Being a favored customer, the rate is set at 1 percent over the bank's cost of funds, where the cost is the rate on negotiable certificates of deposit (CDs). In addition, there is a ½ percent commitment fee on the unused portion of the revolving credit.

i. If the CD rate is expected to average 9 percent for the coming year and if the company expects to utilize, on average, 60 percent of the total commitment, what is the expected annual rupee cost of this credit arrangement?

ii. What is the percentage cost when both the interest rate and the commitment fee paid are considered?

iii. What happens to the percentage cost if on average only 20 percent of the total commitment is utilized? [10]

b. What is the equivalent annual interest rate that would be lost if the firm fails to take the cash discount under each of the following:

(i) 1/15, net 30 (ii) 3/10, net 60 (iii) Assuming a 20-day stretching of the payment date, re-compute the cost of not taking the discount in (i) and (ii). [10]

Ans: (a) (i) Rs. 3,10,000 (ii) 10.335 (iii) 12% (b) (i) 24.24% (ii) 22.27% (iii) 10.39% and 15.91%

63. 2054 Q.No. 5

a. Pokhara Supermarket Company is expanding its chain of retail liquor stores. This program will require capital expenditures of Rs.3 million, which must be financed. The company has settled on a three-year revolving credit of Rs.3 million, which may be converted into a three-year term loan at the expiration of the revolving credit commitment. The commitment fee for both credit arrangements is 0.50 percent of the unused portion. The bank has quoted the company an interest rate of 1 percent over prime for the revolving credit and 1½ percent over prime for the term loan, if that option is taken. The company expects to borrow Rs.1.4 million at the outset and another Rs.1.6 million at the very end of the first year. At the expiration of the revolving credit, the company expects to take down the full term loan. At the end of each of the fourth, fifth, and sixth years, it expects to make principal payments of Rs.1 million.

i. For each of the next six years, what is the expected commitment fee in rupees?

ii. What is the expected rupee interest cost above the prime rate? [10]

b. Koshi Finance Company makes a variety of secured loans. Both the percentage of advance and the interest rate charged vary with the marketability, life, and riskiness of the collateral. It has established the following advances and interest rate charges for certain types of equipment:

Item	Advance against appraisal value	Interest rate
Forklift truck	75%	18%
Back hoe truck	80	18
Drill press	50	20
Bottle filler	40	22
Turret lathe	60	20

Birat Construction Company has used equipment of the sort with appraised values of Rs.13,000, Rs.19,000, Rs.6,000, Rs.38,000, and Rs.24,000, respectively. How much can it borrow and what will be the total annual interest cost in rupees? In percentage? (Assume that the company owns only one item of each). [10]

Ans: (a) (i) Rs. 14,000, Rs. 30,000 and Rs. 30,000 (ii) Rs. 45,000, Rs. 30,000, Rs. 15,000 (b) Borrowed amount = Rs. 57,550; Total interest cost = Rs. 11,315; APC = 19.66%

64. 2053 Q.No. 5 a

a. Janakpur Tobacco Company needs an additional Rs.250,000, which it plans to obtain through a factoring arrangement. The factor would purchase The Company's accounts receivable and advance the invoice amount, less a 2 percent commission, on the invoices purchased each month. (the company sells on terms of net 30 days.) In addition, the factor charges 16 percent annual interest on the total invoice amount, to be deducted in advance.

i. What amount of accounts receivable must be factored to net Rs.250,000?

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ii. If the company can reduce credit expenses by Rs.1,500 per month and avoid bad-debt losses of 3 percent on the factored amount, what is the total rupee cost of the factoring arrangement? [10]

b. Jaya manufacturing Company is negotiating with a certain bank for a Rs. 10 million one year loan. The bank has offered the company the following three alternatives:

a. An 18 percent interest rate, no compensating balance, and interest due at the end of the year.

b. A 15 percent interest rate, a 20 percent compensating balance, and interest due at the end of the year.

c. A 13 percent interest rate, a 15 percent compensating balance, and the loan discounted.

Which alternative would you choose? [10]

Ans: (a) (i) Rs. 2,58,621 (ii) Annual savings = Rs. 7,656 (b)(i) 18% (ii) 18.75% (iii) 18.06% alternative a

65. 2052 Q.No. 5

a. The COR Corporation is in need of Rs.1,000,000 in cash to make an out of court settlement in a legal suit against the Corporation. Mr. X treasurer of the corporation, believes that they have two alternatives in raising the funds:

i. Forego cash discounts on terms of 2 /10, net 50.

ii. Borrow on a discount basis, from the bank at a 10 percent rate of interest, with monthly installment repayment for a period of one year.

Which is the least costly sources of funds? [10]

b. The COM Company is negotiating a new labor contract. Among other things, the labour union is demanding that the company pays its workers weekly instead of twice a month. The payroll currently is Rs.520,000 per pay day, and accrued wages average Rs.260,000. What is the annual cost of the union's demand if the company's opportunity cost of funds is 9 percent? [10]

Ans: (a) (i) 18.62% (ii) 22.22%, alternative ii (b) Rs. 6,300

66. 2051 Q.No. 5

A certain manufacturing company has experienced a severe cash squeeze and must raise Rs. 200,000 over the next 90 days. The company has already pledged its receivables in support of a loan. Still, it has Rs. 570,000 in unencumbered inventories. Determine which of the following financing alternatives is better;

a. The Arab bank will lend against finished goods, provided they are placed in a public warehouse under its control. As the finished goods are released for sale, the loan is reduced by the proceeds of the sale, The company currently has Rs. 300,000 in finished goods inventories and would expect to replace finished goods that are sold out of the warehouse with new finished goods, so that it could borrow the full Rs. 200,000 for 90 days. The interest rate is 10 percent, and the company will pay warehousing costs of Rs. 3,000. Finally, it will experience a reduction in efficiency as a result of this arrangement. Management estimates that the lower efficiency will reduce before-tax profits by Rs. 5,000.

b. The Indo Suez Bank will lend the company the money under a floating lien on all of its inventories. The rate is 23 percent, but no additional expenses will be incurred. [20]

Ans: (a) Rs. 12,932, (b) Rs. 11,342 alternative b

67. 2050 Q.No. 5

A certain company needs to finance all of its inventories, which average the following during the four quarters of the year (in thousands):

Quarter	1	2	3	4
Inventory level (in thousands)	Rs. 1,600	Rs. 2,100	Rs. 1,500	Rs. 3,200

The company presently utilizes a finance company loan secured by a floating lien. The interest rate is the prime rate plus 7½ percent, but no additional expenses are incurred. The Arab Bank is bidding for the company's business and had proposed a trust receipt financing arrangement. The interest rate will be 2½ percent above the prime rate, with servicing costs of Rs. 20,000 per quarter. Should the company switch financing arrangements?

Ans: Cost of floating lien = Rs. 1,57,500, cost and trust receipt loan = Rs. 1,32,500, Trust receipt loan

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68. 2048 Q.No. 5

The K.L Company needs an additional Rs. 75,000 in working capital immediately. It has been determined that there are three feasible sources of funds:

a. **Trade credit:** The company buys about Rs.50,000 of materials per month on terms of "3/30, net 90." Discounts are taken.

b. **Bank loan:** The firm's bank will lend Rs.100,000 at 9 percent. A 20 percent compensating balance will be required.

c. **Factoring:** A factor will buy the company's receivables (Rs.100,000 per month), which have a collection period of 60 days. The factor will advance up to 75 percent of the face value of the receivables or an annual charge of 8%. The factor will also charge a 2 percent fee on all receivables purchased. It has been estimated that the factor's services will save the company a credit department expense and bad debt expenses of Rs.1,500 per month. Which alternative should the company select? [20]

Ans: (a) 18.81% (b) 14.44% (c) 20%, alternative b

69. 2046 Q.No. 5

CC Company estimates that the seasonal nature of its business will create the need for an additional Rs.600,000 of cash for the month of Ashadh. It has the following alternatives:

a. Establish a one–year line of credit for Rs. 600,000 with a commercial bank. The commitment fee will be 1 percent, and the interest charge on the used funds will be 20 percent per annum. The minimum time the funds can be used is 30 days.

b. Forego the Ashadh trade discount of 2/10, net 40 on Rs.600,000 of accounts payables.

c. Issue Rs.600,000 of 90-day commercial paper at a 15 percent per annum interest rate. Since the funds are required for only 30 days, the excess funds can be invested at 14 percent per annum marketable securities for the months of Shrawan and Bhadra. The total transaction fee on purchasing and selling the marketable securities is 1 percent of the fair value.

Which is the last least costly method of financing? [20]

Ans: (a) Rs. 15,500 (b) Rs. 12,000 (c) Rs. 14,500, alternative b

70. 2045 Q.No. 9 a

a. Koirala Inc. estimates that it will need an additional Rs.150,000 for the month of April, due to the seasonal nature of its business. It has three options available to provide the needed funds.

i. Establish a one–year line of credit for Rs. 150,000 with a commercial bank. The commitment fee would be 1 percent, and the interest charged would be 10 percent per annum on the used funds. No minimum time on the use of the money.

ii. Forego the April trade discount of net 40 on Rs.15,00,000 of accounts payable.

iii. Issue Rs.150,000 of sixty-day commercial paper at a 9 percent per annum interest rate. Since the funds are only required for 30 days, the excess funds are invested in 8 percent per annum marketable securities for the month of May. The total transaction fee on purchasing and selling the marketable securities is ½ of 1 percent of the fair market value.

Which alternatives result in the lowest cost? [10]

b. What is the equivalent annual interest rate that would be lost if a firm fail to take the cash discount under the following terms?

(i) 1/10, net 20; (ii) 1/20, net 30; (iii) 1/60, net 60 [10]

Ans: (a) (i) Rs. 2,625 (ii) Rs. 3,000 (iii) Rs. 2,000 alternative C (b) (i) 36,87% (ii) 36.87% (iii) 22,58%

71. 2044 Q.No. 9 a

a. The S Company's terms of purchase are 45 days but accounts payable represent 67.5 day's purchases. The president of the company is trying to increase bank borrowing in order to become current in meeting its trade obligations, and reduce them to 45 days.

(i) If the accounts payable are Rs.1,200,000, how much bank financing is needed to eliminate past due account payable?

(ii) As a bank officer, on what would base your decision as to granting the loan or denying it?[10

b. Company Q needs Rs.150,000 and can obtain it through factoring arrangement. The factor is willing to purchase Q's accounts receivable and to advance the amount purchased, less a 4

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percent factoring commission on the invoices purchased each month. All sales are on 30 days terms. A 9 percent annual interest rate will be charged on the total invoice price and deducted in advance. Also, Q can reduce its bad debt losses by 1 percent of the amount of receivables that are to be factored and reduce credit expenses by Rs.4,500 per month.

What is the effective interest rate and the annual total cost, including credit department expenses and bad debt losses associate with the factoring? [10]

Ans: (a) Rs. 400,000 (b) BAR = 11.845 total cost = Rs. 16,866

72. 2041 Q.No. 9

A Company operates in a seasonal business and currently faces a severe liquidity crisis. The company needs Rs.60,000 for the next sixty days. The company has exhausted all unsecured sources of short term funds and wishes to find a secured short term lender. The company's accounts receivable are quite low, but its inventory which is believed to be reasonably liquid, is considered good collateral. The company through its research has found that the following lending arrangements against inventory are available. The book value of inventory is Rs.120,000.

Plan 1: Mercantile Bank will advance 60 percent of the book value of collateral for a 10 percent, 60 days note.

Plan 2: The Republic Bank will make a trust receipt loan against Rs.90,000 of finished goods inventory. The cost of this loan will be 8 percent interest plus a 0.50 percent administrative fee. The average amount owed over the period is expected to be Rs.40,000.

Plan 3: The First Bank will lend 80 percent of the finished goods balance and charge 9 percent on the outstanding loan balance. The average loan balance is expected to be Rs.35,000 over the sixty day period. A 1 percent warehousing fee will be charged.

a. Assuming Rs.68,000 is borrowed in each case, calculate the cost of each plan.
b. Which of the plan do you recommend for the company?
c. If the company were extended credit terms of 1/10 net 70 on a Rs.60,000 purchase, would it be better to forgo the discount than to take action recommended above? [20]

Ans: (a) Plan 1 = Rs. 1,133.33; Plan 2 = Rs. 873.33; Plant 3 = Rs. 1,205 (b) Plan 2 = (c) Yes forget the discount because it has low cost i.e. Rs. 600

3. TERM LOANS AND LEASE FINANCING

MBS

THEORETICAL QUESTIONS

1. 2067 Q.No. 3

Explain the various factors affecting lease versus purchase decisions. [8]

2. 2064 Q.No. 5 a

Discuss about the operating lease and financial lease. [5]

3. 2062 Q.No. 4 a

Explain the characteristics of term loan. 5

4. 2058 Q.No. 2

What are the different forms of leases? Explain the various factors affecting lease versus purchase decisions. [20]

■ **Write short notes on:**

5. 2070 Q.No. 8b

Financial lease [5]

6. 2069 Q.No. 8a

Financial lease versus operating lease [5]

7. 2068 Old Q.No. 6a

Amortization schedule [5]

8. 2064 Q.No. 6 a

Term loan [5]

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9. 2061 Q.No. 6 b

Mortgage financing [5]

10. 2060 Q.No. 6 a

Repayment schedule [5]

NUMERICAL QUESTIONS

11. 2070 Q.No. 10

The National Transportation Company (NTC) has decided to acquire a new equipment. One alternative is to lease the equipment on a 4-year guideline contract for a lease payment of Rs.10,000 per year with payments to be made at the beginning of each year. The lease would include maintenance. Alternatively, NTC could purchase the equipment outright for Rs.40,000, financing the purchase by a bank loan for the net purchase price and amortizing the loan over a 4-year period at an interest rate of 10 percent per year. Under the borrow to purchase arrangement, NTC would have to maintain the equipment at a cost of Rs.1,000 per year, payable at year end. The equipment falls into the MCRCS 3-year class. It has a residual value of Rs.10,000, which is the expected market value after 4 years, when NTC plans to replace the equipment irrespective of whether it leases or buys. NTC has a marginal rate of 40 percent.

a. What is the NTC's cost of leasing?
b. What is the NTC's cost of borrowing?
c. Should the equipment be leased or purchased?
d. The appropriate discount rate for cash flows used in the analysis is the firm's after-tax cost of debt. Why? [8+8+2+2]

Ans: (a) PV (L) = Rs 22,869.60; (b) PV(P) = Rs 23,036.81

12. 2070 Old Q.No. 8

(a) The CL Company (CLCO) produces industrial machines, which have five-year lives. 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 and 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).

(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. Which alternative is better for STCO? Note that the discount rate applied by the company is its after-tax cost of debt.

(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? [6+8+6]

Ans: (a) L_t= Rs 17,709.08 (b) PV (L) = Rs 41,329.80; PV (P) = Rs 41,329.44; (c) L_t = Rs 19,740.79; PV (L) = Rs 46,071.45; PV (P) = Rs 41,329.44

13. 2069 Q.No. 5

Unilever Nepal must install Rs. 2 million of new machinery. It can obtain a bank loan for 100 percent of the purchase price, or it can lease the machinery. Assume the following:

a. The machinery falls into the MACRS 3 year class.
b. Estimated maintenance expenses are Rs. 100,000 per year, payable at the end of each year.
c. The firm's tax rate is 30%.
d. The loan would have an interest rate of 15%.
e. The lease terms call for Rs. 600,000 payments at the end of each of the next 4 years.
f. Under either the lease or the purchase, the company must pay for insurance, property taxes, and maintenance.
g. Assume that the company will continue to use the machine beyond the expiration of the lease and must purchase it at an estimated residual value of Rs. 400,000 at the end of the 4th year. Determine whether the firm should go for leasing or owning of the machinery by calculating (i) cost of owning (ii) cost of leasing (iii) Net advantage to leasing. MACRS 3 year class rates are 33%, 45%, 15% and 7% through years 1 to 4. [10]

Ans: (i) Rs. 15,04,837.50 (ii) Rs. 15,85,358 (iii) Rs. –80,530.41

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14. 2069 Old Q.No. 4

Digital electronics is considering whether to purchase or lease some specialized equipment. The equipment has 5-year economic and tax life and modified accelerated cost recovery system (MACRS) is employed. Equipment's salvage value is zero, marginal tax rate is 40% and firm's before-tax cost of borrowing is 15%. Equipment costs Rs. 800,000 if purchased and 4% investment tax credit is in effect and will be passed on to the lessor if the equipment is leased. It can be leased for 5 years for Rs. 190,000 per year. The first lease payment is payable in advance.

i. Find the present value of tax shield if MACRS for year 1 through 6 are 20%, 32%, 19%, 12%, 12% and 6%. In case of MACRS, take 6 years for depreciation.
ii. Find the discounted present value of the subsequent lease payment for four year at 9% discount rate.
iii. Find net advantages of leasing.
iv. Should Digital Electronics lease the assets? [10]

Ans: (i) Rs. 255,461.12 (ii) Rs. 509,933.40 (iii) Rs. 76441.2078

15. 2068 Q.No. 5

Everest Livestock must install Rs 1.5 million of new machinery. It can obtain a bank loan for 100 percent of the purchase price, or it can lease the machinery. Assume the following:

a. The machinery falls into the MACRS 3 year class.
b. Estimated maintenance expenses are Rs 75,000 per year, payable at the end of each year.
c. The firm's tax rate is 40%
d. The loan would have an interest rate of 15%.
e. The lease terms call for Rs 400,000 payments at the end of each of the next 4 years.
f. Under either the lease or the purchase, the company must pay for insurance, property taxes, and maintenance.
g. Assume that the company will continue to use the machine beyond the expiration of the lease and must purchase it at an estimated residual value of Rs 250,000 at the end of the 4th year.

Determine whether the firm should go for leasing or owning of the machinery by calculating (i) cost of owning (ii) cost of leasing (iii) Net advantage to leasing. MACRS 3 year class rates are 33%, 45% 15% and 7% through years 1 to 4. [10]

Ans: (i) Rs 991,827.3189 (ii) Rs 954,628 (iii) Rs 37,199.3189

16. 2068 Old Q.No. 4

The ABC Company is faced with the decision of whether it should purchase or lease a new generator. The generator can be leased on 10 year contract for Rs 9,500 a year or it can be purchased for Rs 80,000. The salvage value of the generator after ten years is Rs 2,500. The company uses straight line depreciation. The discount rate applied is it's after tax cost of debt. The company can borrow at 10 percent and has a 40 percent marginal tax rate and a 12 percent cost of capital.

a. Analyze the lease versus purchase decisions using the firm's after tax cost of debt as the discount factor.
b. Discuss your results. [10]

Ans: (a) Rs 41,952.57 and Rs 55,787.69

17. 2067 Q.No. 5

NCELL must install Rs. 1 million of new machinery. It can obtain a bank loan for 100 percent of the purchase price, or it can lease the machinery. Assume the following:

a. The machinery falls into the MACRS 3 year class.
b. Estimated maintenance expenses are Rs. 80,000 per year, payable at the end of each year.
c. The firm's tax rate is 35%.
d. The loan would have an interest rate of 15%.
e. The lease terms call for Rs. 300,000 payments at the end of each of the next 4 years.

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f. Under either the lease of the purchase, the company must pay for insurance, property taxes, and maintenance.

g. Assume that the company will continue to use the machine beyond the expiration of the lease and must purchase it at an estimated residual value of Rs. 100,000 at the end of the 4th year.

Determine whether the firm should go for leasing or owning of the machinery by calculating (i) cost of owning (ii) cost of leasing (iii) Net advantage to leasing. MACRS 3 year class rates rate are 33%, 45%, 15% and 7% through years 1 to 4. [10]

Ans: (i) Rs 707,422.99 (ii) Rs 690,414.50 (iii) Rs 17,008.49

18. 2067 Q.No. 5 (Old)

Fez Fabulous Limited wishes to acquire a Rs. 1,000,000 multifaceted cutting machine. The machine has a useful life of 8 years. The expected salvage value at the end of life is Rs. 140,000. If it were to lease finance the machine over 8 years, annual lease payments of Rs. 160,000 would be required, payable in advance. The company also could borrow at a 10 percent rate. The asset falls in the 5-years property class for cost recovery (depreciation) purposes, where the rates through year 1 to 6 are 20%, 32%, 19.2%, 11.52%, 11.52% and 5.76% respectively. And the company has a 40 percent tax rate. Using the internal-rate-of-return method of analysis, should the company go for leasing or owning? Determine the best alternative. [10]

Ans: 7.84%

19. 2066 Q.No. 5

Unilever Nepal wants to acquire a mechanized feed spreader that costs Rs. 800,000. The company intends to operate the equipment for 5 years, at which time it will need to be replaced. However, it is expected to have a before salvage value off Rs. 100,000 at the end of the fifth year. The assets will be depreciated on a straight-line basis (Rs. 16,000 per year) over the 5 years, and company is in a 30 percent tax bracket. Two means for financing the feed spreader are available. A lease arrangement calls for lease payments of Rs. 190,000 annually, payable in advance. A debt alternative carries an interest cost of 10 percent. Debt payments will be at the start of each of the 5 years using mortgage type of debt amortization. Using the present-value method, determine cost of owning and cost of leasing and indicates the best alternative. Is the lowest cost alternative always the best alternative to choose?

Ans: PV (L) = Rs 599,856.60; PV(P) = Rs 553,273.18

20. 2065 Q.No. 3

Assuming that annual lease payments are in advance, solve for the unknown in each of the following situations. 10

a. Purchase price of Rs.46,000, implicit interest rate of 11 percent, a 6-year lease period, Rs.3,000 expected residual value; solve for the annual lease payment.

b. Purchase price of Rs.210,000; a 5-year lease period, annual lease payments of Rs.45,000; an expected residual value of Rs.25,000; solve for the implied interest rate.

c. Purchase price of Rs.165,000; implied interest rate of 10 percent, annual lease payments of Rs.24,412 no residual value; solve for the lease period.

Ans: (a) Rs.9,454.20 (b) 8.2633% (c)10 years.

21. 2064 Q.No. 5 b

The Nepal Machinery Company produces industrial machines, which have five-year lives. Nepal Machinery Company is willing to sell either the machines for Rs. 30,000 or lease them at a lease rent because of competitive factors, yield an after tax return of 6 percent that represents its cost of capital. What is the company's competitive lease-rental amount? Assume straight-line depreciation, zero salvage value and an effective corporate tax rate of 40 percent. [5]

Ans: Rs. 7,870

22. 2063 Q.No. 8

Public Feed Industry wishes to acquire a merchandised feed spreader that costs Rs. 80,000. The Feed Company intends to operate the equipment for 5 years, at which time it will need to be replaced. However, it is expected to have a salvage value of Rs. 10,000 at the end of the fifth year. The asset will be depreciated on a straight-line basis (Rs. 16,000 per year) over the 5

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year, and Public Feed is in a 30 percent tax bracket. Two means for financing the feed spreader are available. A debt alternative carries an interest cost of 10 percent. Debt payments will be at the start of each of the 5 years using mortgage type of debt amortization.

a. Using the present value method, determine the best alternative.
b. Using the internal rate of return method, which is the best alternative? Does your answer differ from that to part (a)? [20]

Ans: If lease payment is Rs. 19,000 giving reason that it is competitive lease; Installment = Rs. 19,185; PV of lease = Rs. 15,956; PV of purchase = Rs. 55,325; IRR = 10.12% OR If lease payment is calculated exactly, Installment = Rs. 19,185; PV of lease = Rs. 18,143; PV of purchase = Rs. 57,279; IRR = 8.3%

23. 2062 Q.No. 5

Nepal Leasing Company wishes to acquire an asset of Rs. 100,000. It has a useful life of 8 years. At the end of this time, its scrap value will be Rs. 8,000. The asset falls into the 5-year property class for cost recovery (depreciation) purposes under MACRS. The Company can use either lease or debt financing; lease payments of Rs. 16,000 at the beginning of each of the 8 years would be required. If debt financed, the interest rate would be 14 percent paid payment would be due at the beginning of each of the 8 years. (Interest would be amortized as a mortgage type of debt instrument). The company is in a 40 percent tax bracket. Which method of financing has the lower present value of cash outflows? Depreciation under MACRS: 10

Year	1	2	3	4	5	6
Depreciation rate	0.20	0.32	0.19	0.12	0.11	0.06

Ans: Cost of purchasing = Rs. 65,348.40 and Lease Financing Method

24. 2061 Q.No. 5

A manufacturing company wishes to acquire three heavy trucks that cost Rs. 100,000 in total. A leasing company has offered to lease the trucks to a manufacturing company for a total Rs. 25,000 per year for each of the five years with lease payment payable in advance. To evaluate this option, manufacturing company depreciated the trucks via straight-line depreciation over their five-year normal recovery period and 8 percent investment tax credit is in effect. The marginal tax rate applicable is 40 percent and before tax cost of debt is 11.67%. If the trucks are leased, the ITC will be passed on to the leasing company. Should the manufacturing company lease of purchase the trucks? [10]

Ans: PV of leasing = 68,678; PV of purchasing = 59,198.40 Purchase the truck

25. 2060 Q.No. 4 a

a. The Kathmandu Machinery Company (KMC) produces industrial machines, which have five-year lives. The KMC is willing to sell the machines for 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]

b. The Pokhara 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 cost of capital is 12 percent, its cost of debt 10 percent, and T = 40 percent. Which alternative is better for PMS? [5]

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

Ans: (a) L_t = Rs. 7,869.718 (b) PV of leasing = Rs. 19,890 PV of purchasing = 19,890 lease (c) Lt = Rs. 8,854 PV of leasing Rs. 22,377

26. 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

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