FINANCIAL MANAGEMENT

Revision Kit

Acknowledgment

CONTENTS

Part I: Introduction

This revision kit addresses needs of students preparing to sit CPA Section 3 examination for Financial management

The kit is divided into FOUR main parts:

Part I: INTRODUCTION

- Approach to Examinations

- Syllabus

Part II: REVISION QUESTIONS AND ANSWERS

Past paper questions with model answers

Part III : Comprehensive MOCK examination papers with sample answers

APPROACH TO EXAMINATIONS

Before the actual examination date, it is very important that the student:

a) Attempts past paper questions: Knowing the syllabus content is one thing, but applying it to meet examination requirements is quite a different affair altogether. Attempting past paper questions familiarize the student with the techniques adopted by the examiner in testing the syllabus content.

b) As far as possible, form discussion groups to solve problems together. Groups also avail more academic resources to the group members. Members also realize synergistic effects: they do more in a group than they could have done alone. Groups are especially effective in revising past paper questions.

As you sit the examinations:

1) Ensure you fully comprehend the **INSTRUCTIONS.** The Financial Management paper typically requires one to answer **FIVE** questions in **THREE** hours.
2) Assess the examination questions: take the first 10-15 minutes to go through the questions, sketching the answers on the question paper. Weigh the answer you are likely to produce per question against the marks. Note the questions you can do excellently, well, fairly and the difficult ones.
3) Based on your assessment, select the questions that will enable you to maximize your marks subject to time, memory and information constrains. Of course, you start by selecting those questions that you can tackle best.
4) Plan your time: Allocate every question at least 30 minutes, but not more than 33 minutes. Once time is up, go to the next question so as to maximize your overall score. Remember that the golden rule of diminishing returns in economics operates very effectively during examination time: your rate of earning marks is very high as you start a question, but drops seriously as you spend more time on the question.
5) You need to especially pay attention to question requirements such as:

   State/List: requires you to enumerate points without explanation.
   Define: requires you to explain a term so as to bring out its meaning.
   Outline: Involves listing points and giving a brief explanation, usually as brief as one line statement.
   Discuss: necessitate a thorough review of the issue concerned, bringing out its meaning, merits,demerits, and even alternatives.

6) You need to be especially cautious of chained questions whereby the answers to its latter parts depends on the answer to the first part. If you miss the first part, it is suicidal as it means missing the answer to the parts that follow too! Spend a few moments confirming that the initial part is accurate.
7) Answer the questions as asked by the examiner! Do not set a question for the answer and answer it.
8) Hammer the nail on the head: be as relevant, concise and straight to the point as possible. This maximizes your score per unit of time.
9) Scratch below the surface: If the question has not given you some information, determine how you can get it by using the given information. For example, the examiner may not give you the investor"s required rate of return but may give you the real rate, inflation rate and the risk premium. The sum of the three would give you the required rate of return.
10) If you think the question is erroneous or unclear, state a working assumption and WRITE it down, and answer the question under that assumption.
11) Be as organized as possible, ensuring your answer flows logically. Paragraph your essays, and enumerate or bullet your points.
12) Be confident as you answer questions, even if you can not attempt all or the whole question. Avoid panic situations as they can lead to failure.
13) Ensure your handwriting is legible, and your work is neat.

14) If you forget an answer, querry your mental database. You should leave some space and **CONTINUE** answering other questions. Your mind is a marvellous central processing unit that willretrieve the required data before long

15) If you are totally short of time, outline the answer briefly, depending on how acute your time shortage is. But avoid this situation as much as possible.

16) Clearly state the number of questions you have attempted, in the order that you have attempted them.

SYLLABUS

CPA PART II – SECTION 3
PAPER NO. 9 FINANCIAL MANAGEMENT

To equip the candidate with an understanding of financial management aspects of business organizations, and the sources, costs and utilization of funds.

9.0 SPECIFIC OBJECTIVES

A candidate who passes this subject should be able to:

- understand the concept of Financial Management
- analyze the sources of funds for business
- evaluate various investment decision scenarios for an organization
- appraise the performance of a business using financial tools
- understand the current developments in business financing strategies.

CONTENT

9.1 Nature of Financial Management
- Relationship between Financial Management and financial management
- Goals of the firm
- Agency theory
- Tools of Financial Management: Time value of money, interest rates, cash flows, risk and return (excluding portfolio management)

9.2 Sources Funds
- External sources: equity and loan capital, hire purchase, lease hire, trade credit
- Internal sources: Retained earnings, provisions and reserves
- Sources of funds for Small Business Enterprises (SBEs)
- Cost of funds
- Preparation of financing proposals
- Bond markets
- Commercial papers

9.3 Capital Investment Decisions
- Nature of capital investment decisions
- Capital budgeting techniques under certainty; the traditional and discounted cash flow methods; Net Present Value (NPV) and Internal Rate of Return (IRR); comparison of these methods

9.4 Financial Markets
- Nature and role of financial markets
- Capital Markets; the stock exchange; terminologies, practices and functions including quotations, dealings, parties and documents used, market efficiency; computation and interpretation of the stock index; commercial banks and non-banking financial institutions
- The role of Capital Markets Authority and Central Banks and Central Bank of Kenya
- Money Markets; merchant banks; hire purchase and lease-hire companies; Housing finance companies; insurance companies; building societies; Pension and provident funds; Special financing institutions: Industrial and Commercial Development Corporation (ICDC), Industrial Development Bank (IDB), Commonwealth Development Corporation (CDC) (Their functions and operations)
- Raising of funds by Government: Internal and External Debt

-    Central Depository System.

9.5   Valuation Concepts in Finance
-    Introduction to valuation concepts: market value, book value, replacement value, intrinsic value
-    Basic valuation of financial assets

9.6   Measuring Business Performance
-    Ratio analysis as it affects and relates to business evaluation including ratios that measure profitability or earning performance
-    Ratios that measure solvency and liquidity
-    Coverage ratios
-    Financial stability ratios
-    Yield ratios; dividend per share, earnings per share, price earnings ratio
-    Use of financial ratios by interested parties: management, creditors, investors, employees

9.7   Working Capital management
- Working capital policies: long-term and short-term investment mix.
- Cash, inventory, debtors and creditors management

9.8   Emerging Trends in Financial Management

TOPICAL GUIDE TO REVISION QUESTIONS

Part II: Past Paper Questions and Answers

Questions – Past Papers

DECEMBER 2008

Answer ALL questions in SECTION I and ONE question in SECTION II. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

(a)   What economic advantages are created by the existence of:

    (i)   Primary markets.   (3 marks)
    (ii)   Secondary markets   (3 marks)
    (iii)   Portfolio management firms.   (4 marks)

(b)   Explain how the Capital Authority can ensure:
    (i)   faster growth and development of the Nairobi Stock Exchange or Stock Exchange in your country.   (6 marks)
    (ii)   development of other stock exchanges in Kenya or in your country. (4 marks)
                                                                        (Total: 20 marks)

QUESTION TWO

(a)   You are given the following price quotations on a Treasury Bond for the close of trading on May 31 and June 30, 2000. As on June 30 this Treasury Bond has a 90-day remaining life.

Treasury bond information

	On May 31		On June 30	
Maturity	Bid	Asked	Bid	Asked
September 28	9.10%	9.00%	9.30%	9.25%

    (i)   On May 31, the Treasury Bond had a 120-day remaining life. On that day what percentage of par value would you pay to purchase the Treasury Bond?
                                                                        (3 marks)

    (ii)   Assume you purchased the Treasury Bond on May 31 and later sold it on June 30. What rate of return did you earn during this one-month period? (4 marks)

(b)   (i)   What is a stock exchange index?   (2 marks)
    (ii)   Outline four drawbacks of the Nairobi Stock Exchange index. (4 marks)

(c)   (i)   What is a Commercial Paper?   (3 marks)
    (ii)   State and explain the advantages of using commercial paper by businesses to raise funds   (4 marks)

(Total: 20 marks)

QUESTION THREE

(a)   Describe in brief the greatest difficulties faced in capital budgeting in the real world.
(5 marks)

(b)   Mumias Milling Company purchased a grinder 3 years ago at a cost of Sh.3.5 million.
The grinder had a life of 8 years at the time of purchase. It is being depreciated at 15%
per year on a declining balance. The company is considering replacing it with a new
grinder costing Sh.7 million with an expected useful life of 5 years.

Due to increased efficiency, the profit before depreciation is expected to increase by
Sh.400,000 a year. The old and new grinders will now be depreciated at 25% per year on
a declining balance for tax purposes.

The salvage value of the new grinder is estimated at Sh.210,000. The market value of the
old grinder, today, is Sh.4 million. It is estimated to have a zero salvage value after 5
years.

The company"s tax is 30% and the after tax cost of capital is 12%.

Required
Should the new grinder be bought? Explain.   (15 marks)
(Total: 20 marks)

QUESTION FOUR

(a)   Mwomboko Company Ltd currently operates with terms of net 30 days. The company
has sales of Sh.12 million and its average collection period is 45 days. To stimulate
demand, the company is considering the possibility of offering terms of net 60 days. If
it offers these terms sales will increase by 20%. After the change the average collection
period is expected to increase to 75 days with no difference in payments habits between
old and new customers.

The company has variable costs of Sh.70 for every Sh.100 of sales. The required rate of
return on receivables is 20%.

Required:
Should the company extend its credit period? (Assume a year has 360 days). (8 marks)

(b)   Andreas Company Ltd. currently pays a dividend of Sh.2 per share and this dividend is
expected to grow at an annual rate of 15% for the first 3 years then at a rate of 10% for
the next 3 years after which it is expected to grow at a rate of 5% thereafter.

   (i)   What value would you place on the stock if an 18% rate of return were
required?   (7 marks)
   (ii)   Would your valuation change if you expected to hold the stock for only 3 years?
Explain.   (5 marks)
(Total: 20 marks)

SECTION II

QUESITON FIVE

The financial data given below shows the capital structure of Akabebi Company Limited.

10% Sh.1,000 debenture	4,900,000
Ordinary share capital (Sh.20)	18,000,000
Retained earnings	6,000,000
	28,900,000

The structure is considered optimum and the management would wish to maintain this level.

Akabebi Company Limited intends to invest in a new project which is estimated to cost Sh.16,800,000 with an expected net cash flow of Sh.3,000,000 per annum for 10 years. The management has proposed to raise the required funds through the following means:

1.   Issue 100 10% debentures at the current market value of Sh.5,000 per debenture.
2.   Utilise 60% of the existing retained earnings.
3.   Issue 10% Sh.20 preference shares at the current market price of Sh.25 per share
4.   Issue ordinary shares at the current market price of Sh.45 per share. Floatation cost per share is estimated to be 12% of the share value.
        The company"s current dividend yield is 5% which is expected to continue in the near future. Corporation tax rate is 30%.

Required:
(a)   Determine the current dividend per share.   (3 marks)
(b)   Determine the number of ordinary shares to be issued.   (2 marks)
(c)   Determine the marginal cost of capital for Akabebi Company Ltd based on the above information.   (8 marks)
(d)   Evaluate whether it is viable to invest in the proposed project (Round off your answer for cost of capital to the nearest 1)   (2 marks)
(e)   Explain clearly the sense in which depreciation is said to be a source of funds to business firms.   (5 marks)
                                                                                                            (Total: 20 marks)

QUESTION SIX

(a)   Define agency relationship from the context of a public limited company and briefly explain how this arises.   (6 marks)

(b)   Highlight the various measures that would minimize agency problems between the owners and the management.   (6 marks)

(c)   Evaluate any three factors that may be responsible for the slow growth in the number of companies seeking listing at the Nairobi Stock Exchange or Stock Exchange in your country. (8 marks)
                                                                                                            (Total: 20 marks)

JUNE 2009

Answer ALL questions in SECTION I and ONE question in SECTION II. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

(a)   State the circumstances under which it would be advantageous to lenders and to borrowers from the issue of:

    (i)   Debentures with a floating rate of interest.   (4 marks)
    (ii)   Zero-coupon bonds.   (4 marks)
            (Ignore taxation)

(b)   (i)Briefly discuss the disadvantages of the constant growth dividend model as a
            valuation model.   (4 marks)

    (ii)   The dividend per share of Mavazi Limited as at 31 December 2000 was Sh.2.50. The company"s financial analyst has predicted that dividends would grow at 20% for five years after which growth would fall to a constant rate of 7%. The analyst has also projected a required rate of return of 10% for the equity market. Mavazi"s shares have a similar risk to the typical equity market.

            Required:
            The intrinsic value of shares of Mavazi Ltd. As at 31 December 2000.
                                                                           (8 marks)
                                                                (Total: 20 marks)

QUESTION TWO

(a)   The management of Furaha Packers Ltd. is planning to carry out two activities at the same time to:
    (i)   determine the best credit policy for its customers
    (ii)   find out the optimal level of ordering orange juice from its suppliers.

    The following data have been collected to assist in making the decisions:

    1.   Annual requirements of orange juice are 2,100,000 litres
    2.   The carrying cost of the juice is Sh.8 per litre per year
    3.   The cost of placing an order is Sh.1,400.
    4.   The required rate of return for this type of investment is 18% after tax.
    5.   Debtors currently are running at Sh.60 million and have an average collection period of 40 days.
    6.   Sales are expected to increase by 20% if the credit terms are relaxed and to result in an average collection period of 60 days.
    7.   60% of sales are on credit.
    8.   The gross margin on sales is 30% and is to be maintained in future.

Required:

(i)   Use the inventory (Baumol) model to determine the economic order quantity
        and the ordering and holding costs at these levels per annum.   (8 marks)

(ii)   Determine if the company should switch to the new credit policy. (4 marks)

(b)   The Apollo Credit Collection Company Ltd. employs agents who collect hire purchase
        instalments and other outstanding amounts on a door to door basis from Monday to
        Friday. The agents bank their collections at the close of business everyday from
        Monday to Thursday. At the close of business on Friday the week"s bankings
        are withdrawn and, together with Friday"s collections, are remitted to the head
        office. The takings are evenly spread daily and weekly. The budget for the next year
        shows that total collections will amount to Sh.26 million. The bankings are used to
        reduce an overdraft whose interest rate is 19%.

        The collection manager has suggested that instead of banking collections, they be
        remitted daily to the head office by the collectors.

Required:

Determine the increase in annual interest if the collection manager"s suggestion was
adopted.   (8 marks)
                                                        (Total: 20 marks)

QUESTION THREE

Rafiki Hardware Tools Company Limited sells plumbing fixtures on terms of 2/10 net 30. Its
financial statements for the last three years are as follows:

	1998 Sh."000"	1999 Sh."000"	2000 Sh."000"
Cash	30,000	20,000	5,000
Accounts receivable	200,000	260,000	290,000
Inventory	400,000	480,000	600,000
Net fixed assets	800,000	800,000	800,000
	1,430,000	1,560,000	1,695,000
Accounts payable	230,000	300,000	380,000
Accruals	200,000	210,000	225,000
Bank loan, short term	100,000	100,000	140,000
Long term debt	300,000	300,000	300,000
Common stock	100,000	100,000	100,000
Retained earnings	500,000	550,000	550,000
	1,430,000	1,560,000	1,695,000

Additional information:

	1998	1999	2000
Sales	4,000,000	4,300,000	3,800,000
Cost of goods sold	3,200,000	3,600,000	3,300,000
Net profit	300,000	200,000	100,000

Required:

(a)   For each of the three years, calculate the following ratios:
        Acid test ratio, Average collection period, inventory turnover, Total debt/equity, Net
        profit margin and return on assets.   (12 marks)

(b) From the ratios calculated above, comment on the liquidity, profitability and gearing positions of the company. (8 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Explain fully the effect of the use of debt capital on the weighted average cost of capital of a company. (6 marks)

(b) Millennium Investments Ltd. wishes to raise funds amounting to Sh.10 million to finance a project in the following manner:

Sh.6 million from debt; and
Sh.4 million from floating new ordinary shares.

The present capital structure of the company is made up as follows:

1. 600,000 fully paid ordinary shares of Sh.10 each
2. Retained earnings of Sh.4 million
3. 200,000, 10% preference shares of Sh.20 each.
4. 40,000 6% long term debentures of Sh.150 each.

The current market value of the company"s ordinary shares is Sh.60 per share. The expected ordinary share dividends in a year"s time is Sh.2.40 per share. The average growth rate in both dividends and earnings has been 10% over the past ten years and this growth rate is expected to be maintained in the foreseeable future.

The company"s long term debentures currently change hands for Sh.100 each. The debentures will mature in 100 years. The preference shares were issued four years ago and still change hands at face value.

Required:
(i) Compute the component cost of:
  - Ordinary share capital; (2 marks)
  - Debt capital (2 marks)
  - Preference share capital. (2 marks)

(ii) Compute the company"s current weighted average cost of capital. (5 marks)

(iii) Compute the company"s marginal cost of capital if it raised the additional Sh.10 million as envisaged. (Assume a tax rate of 30%). (5 marks)

(Total: 20 marks)

SECTION II

QUESTION FIVE

(a) The CMA (Capital Markets Authority) has put in place several tax incentives to encourage investments in capital markets.
Highlight some of the tax incentives by the Capital Markets Authority. (4 marks)

(b)   Explain the benefits that are enjoyed by investors because of the existence of organized
         security exchanges.   (8 marks)

(c)   Briefly describe the benefits of the Central Depository System (CDS) to the following
         stakeholders.
         (i)   Government;   (2 marks)
         (ii)   Capital Markets Authority and Nairobi Stock Exchange;   (2 marks)
         (iii)   Investors.   (2 marks)
                                                                       (Total: 18 marks)

QUESTION SIX

(a)   What are financial intermediaries and what role doe they play in the economy?
                                                                                (9 marks)

(b)   Foreign Direct Investment (FDI) plays a crucial role in revamping less developed
         economies.

         Required:
         Write brief notes on the obstacles to the flow of FDI into the Kenyan economy.
                                                                                (9 marks)
                                                                       (Total: 18 marks)

DECEMBER 2009

Answer ALL questions in SECTION I and ONE question in SECTION II. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

(a) Highlight four advantages and disadvantages to a company of being listed on a stock exchange. (8 marks)

(b) In relation to the **stock exchange"**
  (i) Explain the role of the following members:
  - Floor brokers (2 marks)
  - Market makers (2 marks)
  - Underwriters (2 marks)

  (ii) Explain the meaning of the following terms:
  - Bull and bear markets (2 marks)
  - Bid-ask spread (2 marks)
  - Short selling (2 marks)
    (Total: 20 marks)

QUESTION TWO

(a) Multi-Link Ltd., a trading company, currently has negligible cash holdings but expects to make a series of cash payments totaling Sh.150 million over the forthcoming year. These payments will become due at a steady rate. Two alternative ways have been suggested of meeting these obligations.

Alternative I
The company can make periodic sales from existing holdings of short-term securities. The average percentage rate of return on these securities is 12 over the forthcoming year. Whenever Multi-Link Ltd. sells the securities, it will incur a transaction fee of Sh.15,000. The proceeds from the sale of the securities are placed on short-term deposit at 7% per annum interest until needed.

Alternative II
The company can arrange for a secured loan amounting to Sh.150 million for one year at an interest rate of 18% per annum based on the initial balance of the loan. The lender also imposes a flat arrangement fee of Sh.50,000 which would be met out of existing balances. The sum borrowed could be placed in a notice deposit at 9% per annum and drawn down at no cost as and when required. Multi-**Link Ltd."s treasurer** believes that cash balances will be run down at an even rate throughout the year.

Required:
(a) (i)Explain the weaknesses of the Baumol model in the management of cash. (3 marks)

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        (a)   Advise Multi-Link Ltd. as to the better alternative for managing its
                     cash.   (7 marks)

(b)   Lynx Services Ltd., a debt collection agency, has estimated that the standard
        deviation of its daily net cash flow is Sh.22,750. The company pays Sh.120 in
        transaction cost every time it transfers funds into and out of the money market.
        The rate of interest in the money market is 9.465%. The company uses the
        Miller-Orr Model to set its target cash balance. The minimum cash balance has
        been set at Sh.87,500.

        Required:
        (i)   The company"s target cash balance.   (3 marks)
        (ii)   The lower and upper cash limit.   (2 marks)
        (iii)   Lynx Services Ltd."s decision rules.   (5 marks)
                                          (Total: 20 marks)

QUESTION THREE

Magharibi Cane Millers Ltd. is a company engaged in the pressing and processing of sugar cane juice into refined sugar. For some time, the company has been considering the replacement of its three existing machines.

The production manager has learnt from a professional newsletter on sugar of the availability of a new and larger machine whose capacity is such that it can produce the same level of output per annum currently produced by the three machines. Furthermore, the new machine would cut down on the wastage of juice during processing. If the old machines are not replaced, an extraordinary overhaul would be immediately necessary in order to maintain them in operational condition. This overhaul would at present cost Sh.5,000,000 in total.

The following additional information is available:

1.   The old machines were purchased 5 years ago and are being depreciated over 15 years on a straight line basis, with an estimated final scrap value of Sh.600,000 each. The current second hand market value of each of the machines is Sh.1,000,000.

2.   The annual operating costs for each of the existing machines are:

	Sh.	Sh.
Raw sugar cane		60,000,000
Labour (one operator)		1,350,000
Variable expense		925,000
Maintenance (excluding overhaul expenditure)		2,000,000
Fixed expenses:		
Depreciation	75,000	-
Fixed factory overhead absorbed	2,700,000	2,775,000

3.   The new machine has an estimated life of ten years and its initial cost will comprise:

	Sh.
Purchase price (scrap value in 10 years Sh.4,500,000)	87,000,000
Freight and installation	13,000,000
	100,000,000

4. The estimated annual operating costs, if all the current output is processed on the new machine are:

	Sh.	Sh.
Raw sugar cane		162,000,000
Labour (one operator)		3,900,000
Variable expense		2,275,000
Maintenance (excluding overhaul expenditure)		
Fixed expenses:		
Depreciation	9,550,000	
Fixed factory overhead absorbed	7,800,000	17,350,000
Maintenance		4,500,000

5. The company"s cost of capital is 10%.

6. For a project to be implemented, it must pass both the profitability test, as indicated by its internal rate of return and also satisfy a financial viability test, in that it must pay back for itself within a maximum period of five years.

Required:

(a) (i) Net present values of the proposed replacement decision using discount rates
of 10% and 20%. (8 marks)

(ii) The estimated internal rate of return (IRR) of the replacement decision using the values determined in (i) above. (4 marks)

(iii) Advice management on the proposal based on your answer in (ii) above.
(2 marks)

(b) Decision as to whether the project meets the financial viability test. (4 marks)

(c) Comment on any other qualitative considerations that could influence this decision.
(2 marks)

Note: Ignore taxation **(Total: 20 marks)**

QUESTION FOUR

Three years ago, Mrs. Rehema Waziri was retrenched from the Civil Service. She invested substantially all her terminal benefits in the shares of ABC Ltd., a company quoted on the stock exchange. The dividend payments from this investment makes up a significant position of Mrs Waziri"s income. She was alarmed when ABC Ltd. dropped its year 2001 dividend to Sh.1.25 per share from Sh.1.75 per share which it had paid in the previous two years.

Mrs Waziri has approached you for advice and you have gathered the information given below regarding the financial condition of ABC Ltd. and the finance sector as a whole.

ABC Ltd. Balance Sheets as at 31 October

	1999 Sh."000"	2000 Sh."000"	2001 Sh."000"
Cash	15,250	14,400	8,000
Accounts receivable	80,320	87,800	134,400
Inventory	98,600	158,800	254,000
Total current assets	194,170	261,000	396,400
Land and buildings	25,230	27,600	25,000
Machinery	33,800	36,400	30,600
Other fixed assets	14,920	18,200	16,400
Total assets	268,120	343,200	468,400
Accounts and notes payable	34,220	73,760	135,848
Accruals	15,700	34,000	67,000
Total current liabilities	49,920	107,760	202,848
Long term debt	60,850	60,858	81,720
Ordinary share capital	115,000	115,000	115,000
Retained earnings	42,350	59,582	68,832
	268,120	343,200	468,400

ABC Ltd. Income Statements for the year ending 31 October

	1999 Sh."000"	2000 Sh."000"	2001 Sh."000"
Sales (all on credit)	827,000	858,000	890,000
Cost of sales	(661,600)	(710,000)	(712,000)
Gross profit	165,400	148,000	178,000
General administrative and selling expenses	(63,600)	(47,264)	(51,200)
Other operating expenses	(25,400)	(31,800)	(38,200)
Earnings before interest and tax (EBIT)	76,400	68,936	88,600
Interest expense	(12,800)	(26,800)	(63,600)
Net income before taxes	63,600	42,136	25,000
Taxes	(25,400)	(16,854)	(10,000)
Net income	38,200	25,282	15,000
Number of shares issued	4,600,000	4,600,000	4,600,000
Per share data:			
Earnings per share (EPS)	Sh. 8.30	Sh. 5.50	Sh. 3.26
Dividend per share	Sh. 1.75	Sh. 1.75	Sh. 1.25
Market price (average)	Sh.48.90	Sh.25.50	Sh.13.25

	Industry Financial Ratios (2001)
Quick ratio	1.0
Current ratio	2.7
Inventory turnover	7 times
Average collection period	32 days
Fixed asset turnover	13.0 times
Total assets turnover	2.6 times

	Industry Financial rations
Net income to net worth	1.8%
Net profit margin on sales	3.5%
Price-Earnings (P/E) ratio	6 times
Debt/Equity ratio	50%

Notes:

1.   Industry ratios have been roughly constant for the past four years.

2.   Inventory turnover, total assets turnover and fixed assets turnover are based on the year-end balance sheet figures.

Required:

(a)   The financial ratios for ABC Ltd for the past three years corresponding to industry ratios given above.   (10 marks)

(b)   Arrange the ratios calculated in (a) above in columnar form and summarise the strengths and weaknesses revealed by these ratios based on:

(i)   Trends in the firm"s ratios   (6 marks)
(ii)   Comparison with industry averages.   (6 marks)

(The summary should focus on the liquidity, profitability and turnover ratios).

(Total: 22 marks)

SECTION II

QUESTION FIVE

(a)   List and explain five factors that should be taken into account by a businessman in making the choice between financing by short-term and long-term sources. (10 marks)

(b)   Enumerate four advantages of convertible bonds from the point of view of the borrower.   (8 marks)

(Total: 18 marks)

QUESTION SIX

In a company, an agency problem may exist between management and shareholders on one hand and the debt holders (creditors and lenders) on the other because management and shareholders, who own and control the company have the incentive to enter into transactions that may transfer wealth from debt holders to shareholders. Hence the need for agreements by debt holders in lending contracts.

Required:

(a)   State and explain any four actions or transactions by management and shareholders that could be harmful to the interests of debt holders (sources of conflict).   (8 marks)

(b)   Write short notes on any four restrictive covenants that debt holders may use to protect their wealth from management and shareholder raids.   (10 marks)

(Total: 18 marks)

MAY 2010

Answer ALL questions in SECTION I and ONE question in SECTION II. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

(a) Discuss the drawbacks of using the following approaches in estimating a security"s value:

(i)   Book value;   (3 marks)
(ii) Replacement value;   (3 marks)
(iii) Substitution value;   (3 marks)
(iv) Intrinsic value.   (3 marks)

(b) Ngomongo Holdings Limited has investment interests in three companies. Kirinyaga Video Limited (KVL), Kilgoris Hauliers Limited (KHL) and Turkana Fisheries Limited (TFL). The following financial data relate to these companies.

1. As at 31 December 2001, the financial statements of two of the companies revealed the following information:

Company	Price of share Sh.	Earnings per share Sh.	Dividend per share Sh.
Kirinyaga Video Ltd. (KVL)	160	8	8
Kilgoris Hauliers Ltd. (KHL)	270	18	9

2. Earnings and dividend information for Turkana Fisheries Ltd. (TFL) for the past five years is given below:

Year ended 31 December	1997 Sh.	1998 Sh.	1999 Sh.	2000 Sh.	2001 Sh.
Earnings per share	5.0	6.0	7.0	10.0	12.0
Dividend per share	3.0	3.0	3.5	5.0	5.5

The estimated return on equity before tax required by investors in Turkana Fisheries Ltd."s shares is 20%.

Required:

(i)   For Kirinyaga Video Ltd. (KVL) and Kilgoris Hauliers Ltd. (KHL), determine and compare:
- Dividend yields   (2 marks)
- Price/Earnings ratios   (2 marks)
- Dividend covers.   (2 marks)

(ii) Using the dividends growth model, determine the market value of 1,000 shares held in Turkana Fisheries Ltd. (TFL) as at 31 December 2001.   (4 marks)

FINANCIAL MANAGEMENT

(Total: 22 marks)

QUESTION TWO

Clean Wash Ltd. manufactures and markets automatic washing machines. Among the hundreds of components which it purchases each year from external suppliers for assembling into the finished articles are drive belts, of which it uses 400,000 units per annum. It is considering converting its purchasing, delivery and stock control of this item to a Just-In-Time (JIT) system. This will raise the number of orders placed but lower the administrative and other costs of placing and receiving orders. If successful, this will provide the model for switching most of its inwards supplies into this system.

Details of current and proposed ordering and carrying costs are given below:

	Current	Proposed
Ordering cost per order	Sh.10,000	Sh.2,500
Purchase cost per item	Sh.25	Sh.25
Inventory holding cost (as a percentage of the purchase cost)	20%	20%

To implement new arrangements will require a one-off reorganization costs estimated at Sh.140,000 which will be treated as revenue item for tax purposes. The rate of corporation tax is 32.5% and Clean Wash Ltd. can obtain finance at an effective cost of 18%. The life span of the new system is 8 years.

Required
(a)   (i)The economic order quantity with current and proposed arrangements.

                                                                        (5 marks)
        (ii)   New Present Value (NPV) of the new arrangement. Is the new arrangement
                 worthwhile?   (10 marks)

(b)   Briefly explain the nature and objectives of JIT purchasing arrangements concluded
        between components users and suppliers.   (5 marks)
                                                                        (Total: 20 marks)

QUESTION THREE

The management of Afro Quatro Ltd. want to establish the amount of financial needs for the next two years. The balance sheet of the firm as at 31 December 2001 is as follows:

	Sh."000"
Net fixed assets	124,800
Stock	38,400
Debtors	28,800
Cash	7,200
Total assets	199,200
Financed by:	
Ordinary share capital	84,000
Retained earnings	35,200
12% long-term debt	20,000
Trade creditors	36,000
Accrued expenses	24,000
	199,200

For the year ended 31 December 2001, sales amounted to Sh.240,000,000. The firm projects that the sales will increase by 15% in year 2002 and 20% in year 2003.

The after tax profit on sales has been 11% but the management is pessimistic about future operating costs and intends to use an after-tax profit on sales rate of 8% per annum.

The firm intends to maintain its dividend pay out ratio of 80%. Assets are expected to vary directly with sales while trade creditors and accrued expenses form the spontaneous sources of financing. Any external financing will be effected through the use of commercial paper.

Required:
(a)   Determine the amount of external financial requirements for the next two years.

(7 marks)

(b)   (i)   A proforma balance sheet as at 31 December 2003.   (10 marks)
        (ii)   State the fundamental assumption made in your computations in (a) and b(i)
                above.   (1 marks)
                                                                (Total: 18 marks)

QUESTION FOUR

P. Muli was recently appointed to the post of investment manager of Masada Ltd. a quoted company. The company has raised Sh.8,000,000 through a rights issue.

P. Muli has the task of evaluating two mutually exclusive projects with unequal economic lives. Project X has 7 years and Project Y has 4 years of economic life. Both projects are expected to have zero salvage value. Their expected cash flows are as follows:

Project	X	Y
Year	Cash flows (Sh.)	Cash flows (Sh.)
1	2,000,000	4,000,000
2	2,200,000	3,000,000
3	2,080,000	4,800,000
4	2,240,000	800,000
5	2,760,000	-
6	3,200,000	-
7	3,600,000	-

The amount raised would be used to finance either of the projects. The company expects to pay a dividend per share of Sh.6.50 in one year"s time. The current market price per share is Sh.50.
Masada Ltd. expects the future earnings to grow by 7% per annum due to the undertaking of either of the projects. Masada Ltd. has no debt capital in its capital structure.

Required:

(a)   The cost of equity of the firm.   (3 marks)

(b)   The net present value of each project.   (6 marks)

(c)   The Internal Rate of return (IRR) of the projects. (Rediscount cash flows at 24%
        for project X and 25% for Project Y).   (6 marks)

(d)   Briefly comment on your results in (b) and (c) above.   (2 marks)

(e)   Identify and explain the circumstances under which the Net Present Value (NPV) and
         the Internal Rate of Return (IRR) methods could rank mutually exclusive projects in a
         conflicting way. (5 marks)

                                                                              (Total: 22 marks)

SECTION II

QUESTION FIVE

(a)   What is meant by the term "capital flight?"   (5 marks)

(b)   Why have African economies been characterized by much capital flight in the past?
                                                                              (8 marks)

(c)   What is the impact of massive capital flight on the value of the domestic currency?
                                                                              (5 marks)
                                                                              (Total: 18 marks)

QUESTION SIX

(a)   Discuss the main factors which a company should consider when determining the
         appropriate mix of long-term and short-term debt in its capital structure.   (6 marks)

(b)   Malindi Leisure Industries is already highly geared by industry standards, but wishes to
         raise external capital to finance the development of a new beach resort.

         Outline the arguments for and against a rights issue by Malindi Leisure Industries.
                                                                              (6 marks)

(c)   Examine the relative merits of leasing versus hire purchase as a means of acquiring
         capital assets.   (6 marks)
                                                                              (Total: 18 marks)

DECEMBER 2010

Answer ALL questions in SECTION I and ONE question in SECTION II. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

a) A firm may adopt a conservative policy or an aggressive policy in financing its working capital needs.

Clearly distinguish between:
i) A conservative policy and (3 marks)
ii) An aggressive policy. (3 marks)

b) The following information relates to the current trading operations of Maji Mazuri Enterprises (MME) Ltd:

- Level of annual sales (uniform per month) - Sh.600 million
- Contribution to sales ratio - 15%
- Debtors recovery period:

Percentage of debtors	Average collection period (days)
25	32
60	50
15	80

- Credit sales as a percentage of total sales - 60%
- Required return on investments - 15%
- Level of bad debts (2% of credit sales) - Sh.7,200,000

The management of the company is in the process of reviewing the company"s credit management system with the objectives of reducing the operating cycle and improving the firm"s liquidity. Two alternative strategies, now being considered by managementare detailed as follows:

Alternative A: change of credit terms:

The proposal requires the introduction of a 2% cash discount which is expected to have the following effects:

- 50 per cent of the credit customers (and all cash customers) will take advantage of the 2 per cent cash discount.

- There will be no change in the level of annual sales, the percentage of credit sales and the contribution of sales ratio.

- There will be savings in collection expenses of Sh.2,750,000 per month.

- Bad debts will remain at 2 per cent of total credit sales.

- The average collection period will be reduced to 32 days.

Alternative B: contracting the services of a factor:

The factor would charge a fee of 2% of total credit sales and advance MME Ltd. 90% of total credit sales invoiced by the end of each month at an interest rate of 1.5% per month.

The effects of this alternative are expected to be as follows:

- No change is expected in the level of annual sales, proportion of credit sales and contributions margin ratio.
- Savings on debt administration expenses of Sh.1,400,000 per month will result
- All bad debt losses will be eliminated
- The average collection period will drop to 20 days.

Required:

i) Evaluate the annual financial benefits and costs of each alternative (Assume 360 –day year)   (8 marks)

ii) Advise MME Ltd. management on the alternative to implement.   (2 marks)

iii) Explain briefly other factors that should be considered in reaching the decision in (ii) above.   (4 marks)

(Total: 20 marks)

QUESTION TWO

(a) In evaluating investment decisions, cash flows are considered to be more relevant than profitability associated with the project.
Explain why this is the case.   (3 marks)

(b) Mwamba Limited is considering replacing a production machinery at its Mtwapa plant. The existing machinery at the plant was bought 3 years ago at a cost of Sh.50 million. It is expected to have a useful life of 5 more years with no scrap value at the end of this period. The machinery could be disposed of immediately with net proceeds of Sh.35 million after tax.

The new machinery will cost Sh.80 million, with a useful life of 5 years and expected terminal value of Sh.5 million. With the introduction of the new machinery, sales are expected to increase by Sh.25 million per annum over the next 5 years. Variable costs are 60 per cent of sales and the corporate tax rate is at 30 per cent per annum.

The operation of the new machinery will also require an immediate investment of Sh.8 million in working capital which will be recovered at the end of its useful life. Installation costs of the new machinery will amount to Sh.6 million.

Assume that capital allowances are to be provided for on a straight-line basis and Mwamba Limited"s cost of capital is 12 per cent per annum.

Required:

(i)   The initial cash outflow for the replacement decision.   (3 marks)
(ii) The annual incremental after tax operating cash flows.   (4 marks)
(iii) The NPV of the replacement decision and advise Mwamba Limited on whether to replace the machinery.   (7 marks)

(iv)   The minimum after tax annual operating cash flows that will make the
        replacement feasible.   (3 marks)
                                                        (Total: 20 marks)

QUESTION THREE

(a)   Explain the term "agency costs" and give any three examples of such costs. (5 marks)

(b)   On 1 November 2002, Malaba Limited was in the process of raising funds to undertake
       four investment projects. These projects required a total of Sh.20 million.

       Given below are details in respect of the projects:

Project	Required Initial Investment Shs. million	Internal Rate of Return (IRR)
A	7	24%
B	6	16%
C	5	18%
D	2	20%

       You are provided with the following additional information:

1.   The company had Sh.5.4 million available from retained earnings as at 1
      November 2002. Any extra equity finance will have to be sourced through an
      issue of new ordinary shares.

2.   The current market price per share on 1 November 2002 was Sh.22.40, ex-
      dividend information on Earnings Per Share (EPS) and Dividends Per Share
      (DPS) over the last 6 years is as follows:

Year ended 31 October	1997	1998	1999	2000	2001	2002
EPS (Sh.)	4.20	4.40	4.65	4.90	5.15	5.26
DPS (Sh.)	2.52	2.65	2.80	2.95	3.10	3.22

3.   Issue of new ordinary share would attract floatation costs of Sh.3.60 per share.

4.   9% Irredeemable debentures (par value Sh.1,000) could be sold with net
      proceeds of 90% due to a discount on issue of 8% and floatation costs of Sh.20
      per debenture. The maximum amount available from the 9% debentures would
      be Sh.4 million after which debt could be obtained at 13% interest with net
      proceeds of 91% of par value.

5.   12% preference shares can be issued at par value Sh.80.

6.   The company"s capital structure as at 1 November 2002 which is
      considered optimum is:

                        Ordinary share capital (equity)   45%
                        Preference share capital   30%
                        Debentures   25%

7.   Tax rate applicable is 30%.

8.   The company has to use internally generated funds before raising extra funds
      from external sources.

       Required:

(i)   The levels of total new financing at which breaks occur in the Weighted
       Marginal Cost of Capital (WMCC) curve.   (3 marks)
(ii)   The weighted marginal cost of capital for each of the 3 ranges of levels of total
       financing as determined in (i) above.   (9 marks)
(iii) Advise Malaba Limited on the projects to undertake assuming that the projects
       are not divisible.   (3 marks)

(Total: 20 marks)

QUESTION FOUR

Madawa Chemicals Ltd. is in the process of forecasting its financial needs for the coming year
ending 31 October 2003. The company attained a turnover ofSh.300 million for the current year
ended 31 October 2002.

The following are the summarized financial statements of the company for the year ended 31
October 2001:

Profit and Loss Account
Sh."million"

Turnover	300
Profit before tax	54
Taxation	18
Profit after tax	36
Dividend	9
Retained profit	27

Balance Sheet

	Sh."million"	Sh."million"
Net Assets:		
Fixed assets (net)		190
Current assets	146	
Current liabilities	103	43
		233
Financed by:		
Issued ordinary shares		50
Reserves		90
		140
Medium and long-term debt		93
		233

From past experience, it has been disclosed that each additional Sh.1 of sales made by the
company requires, on average, a total investment in fixed assets, stocks and debtors of Sh.1.50.
The Sh.1 additional sales also results in the generation of automatic financing of 40 cents as
various creditors spontaneously arise with the increase in sales.

The net profit margin after tax and the dividends payout ratio which apply for the year ended 31
October 2002 will also be relevant into the foreseeable future.

Required:
(a)   The amount of external finance that will be needed during the year ending 31 October
       2003 if sales are expected to increase by 15% in the year.   (4 marks)

(b) The maximum expected sales growth that can be achieved in the year ending 31 October 2003 if only internally generated funds are used. (6 marks)

(c) The maximum growth in sales that can be achieved in the year ending 31 October 2003 if the company wishes to maintain its current level of financial gearing. (6 marks)

(d) Briefly comment upon the weaknesses of the method of forecasting used above.
(4 marks)
(Total: 20 marks)

SECTION II

QUESTION FIVE

Safaricom and Shelter Afrique are examples of companies that have in the recent past issued floating rate bonds.

Required:
(a) Briefly explain the meaning of a "floating rate" bond. (4 marks)

(b) From the point of view of a company"s financial manager, outline the merits and demerits, to the company, of issuing floating rate debt as a means of raising capital.
(16 marks)
(Total: 20 marks)

QUESTION SIX

In recent years, there has been a trend towards "cross-border" listing of securities of quoted companies. This has reduced the over-reliance by companies on domestic capital markets.

Required:
(a) Explain the meaning of "cross-border" listing. (3 marks)

(b) Identify and explain six reasons why companies in your country may seek "cross-border" listing. (12 marks)

(c) Identify five barriers to "cross-border" listing. (5 marks)
(Total: 20marks)

JUNE 2011

Answer ALL questions in SECTION I and ONE question in SECTION II. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

(a)   Explain why the weighted average cost of capital of a firm that uses relatively more debt capital is generally lower than that of a firm that uses relatively less debt capital.

(6 marks)

(b)   The total of the net working capital and fixed assets of Faida Ltd as at 30 April 2003 was Sh.100,000,000. The company wishes to raise additional funds to finance a project within the next one year in the following manner.

Sh.30,000,000 from debt
Sh.20,000,000 from selling new ordinary shares.

The following items make up the equity of the company:

	Sh.
3,000,000 fully paid up ordinary shares	30,000,000
Accumulated retained earnings	20,000,000
1,000,000 10% preference shares	20,000,000
200,000 6% long term debentures	30,000,000

The current market value of the company"s ordinary shares is Sh.30. The expected dividend on ordinary shares by 30 April 2004 is forecast at Sh.1.20 per share. The average growth rate in both earnings and dividends has been 10% over the last 10 years and this growth rate is expected to be maintained in the foreseeable future.

The debentures of the company have a face value of Sh.150. However, they currently sell for Sh.100. The debentures will mature in 100 years.

The preference shares were issued four years ago and still sell at their face value.

Assume a tax rate of 30%

Required:

(i)   The expected rate of return on ordinary shares.   (2 marks)

(ii)   The effective cost to the company of:
   ▪   Debt capital   (2 marks)
   ▪   Preference share capital   (2 marks)

(iii) The company"s existing weighted average cost of capital.   (4 marks)

(iv)   The company"s marginal cost of capital if it raised the additional Sh.50,000,000
         as intended.   (4 marks)
                                                              (Total: 20 marks)

QUESTION TWO

(a)   Briefly explain the importance of capital budgeting in a business organization. (4 marks)

(b)   Alima Ltd., a manufacturer of edible oils, is contemplating the purchase of a new oil
         processing machine to replace the existing one. The existing machine was acquired two
         years ago at a cost of Sh.4,000,000. the useful life of this machine was originally
         expected to be five years with no salvage value, but after a critical analysis, the financial
         analyst has now estimated that the machine will have an economic life of ten years with
         a salvage value of Sh.500,000. The new machine is estimated to cost Sh.8,000,000 and
         Sh.400,000 would be incurred in installing the machine. The new machine is estimated
         to have a useful life of ten years. An expert in asset valuation estimates that the existing
         machine can be sold at Sh.2,500,000 in the open market. The new machine is expected
         to lead to increased sales. To support the increased sales, debtors would increase by
         Sh.320,000, stock by Sh.140,000 and creditors by Sh.300,000. The estimated profit
         before depreciation and tax over the next ten years for the two machines is as given
         below.

Year	New machine	Old Machine
	Sh.	**Sh.**
1	350,000	280,000
2	400,000	300,000
3	420,000	320,000
4	410,000	340,000
5	410,000	340,000
6	380,000	320,000
7	380,000	310,000
8	350,000	280,000
9	300,000	260,000
10	280,000	240,000

The company"s cost of capital is 10%. Corporation tax applicable is 30%.
The company uses the straightline method of depreciation.

Required:

(i)   Initial investment required replacement of the old machine.   (4 marks)
(ii)   An evaluation of whether it is worthwhile for to undertake the replacement of
         the machine.   (12 marks)
                                                              (Total: 20 marks)

QUESTION THREE

(a)   Outline four limitations of the use of ratios as a basis of financial analysis.   (4 marks)

(b)   The following information represents the financial position and financial results of
         AMETEX Limited for the year ended 31 December 2002.

AMETEX Limited
Trading, profit and loss account for the year ended 31 December 2002

	Sh."000"	Sh."000"
Sales – Cash		300,000
- Credit		600,000
		900,000
Less: cost of sales		
Opening stock	210,000	
Purchases	660,000	
	870,000	
Less: closing stock	(150,000)	720,000
Gross profit		180,000
Less expenses:		
Depreciation	13,100	
Directors" emoluments	15,000	
General expenses	20,900	
Interest on loan	4,000	
		(53,000)
Net profit before tax		127,000
Corporation tax at 30%		(38,100)
Net profit after tax		88,900
Preference dividend	4,800	
Ordinary dividend	10,000	14,800
Retained profit for the year		74,100

AMETEX Limited
Balance Sheet as at 31 December 2002

	Sh."000"	Sh."000"	Sh."000"
Fixed Assets			213,900
Current Assets:			
Stocks	150,000		
Debtors	35,900		
Cash	20,000	205,900	
Current Liabilities:			
Trade creditors	60,000		
Corporation tax payable	63,500		
Proposed dividend	14,800	138,300	67,600
			281,500
Financed by:			
Ordinary share capital (Sh.10 par value)		100,000	
8% preference share capital		60,000	
Revenue reserves		81,500	
10% bank loan		40,000	
			281,500

Additional information:
1.   The company"s ordinary shares are selling at Sh.20 in the stock market.
2.   The company has a constant dividend pay out of 10%.

Required:
Determine the following financial ratios:

(i)	Acid test ratio.	(2 marks)
(ii)	Operating ratio	(2 marks)
(iii)	Return on total capital employed	(2 marks)
(iv)	Price earnings ratio.	(2 marks)
(v)	Interest coverage ratio	(2 marks)
(vi)	Total assets turnover	(2 marks)

(c)   Determine the working capital cycle for the company.   (4 marks)

(Total: 20 marks)

QUESTION FOUR

(a)   Ujuzi Limited wishes to raise finance to cater for the purchase of new fixed assets, as its sales level has greatly increased in the recent years, and the demand for its products is expected to increase for the foreseeable future. The company has 900,000 outstanding shares which are currently trading in the stock exchange at Sh.130 a share. The finance manager estimates that the fixed assets will cost Sh.22,500,000 and he has convinced the board of directors to raise the money through a rights issue. The board has set the subscription price at Sh.75 per share.

Required:

(i)	The number of rights required to purchase a new share.	(2 marks)
(ii)	The price of one share after the rights issue.	(2 marks)
(iii)	The theoretical value of the rights if the shares are sold ex-right.	(2 marks)
(iv)	The effect on a shareholder"s wealth if he decides neither to exercise nor sell the right.	(2 marks)

(b)   PKG Ltd. maintains a minimum cash balance of Sh.500,000. The deviation of the company"s daily cash changes is Sh.200,000. The annual interest rate is 14%. The transaction cost of buying or selling securities is Sh.150 per transaction.

Required:
Using the Miller-Orr cash management model, determine the following:

(i)	Upper cash limit	(4 marks)
(ii)	Average cash balance	(2 marks)
(iii)	The return point.	(2 marks)

(c)   Explain briefly the meaning of the term "overtrading".   (4 marks)

(Total: 20 marks)

SECTION II

QUESTION FIVE

(a)   Briefly explain the difference between a broker and a dealer in the stock market.

(6 marks)

(b)   What are the advantages of having a dealer in a stock market?   (6 marks)

(c)   (i)What are the advantages of a central depository system (CDS) for a stock market?   (4 marks)

**FINANCIAL
MANAGEMENT**

     (ii)   What problems are likely to be experienced in the initial introduction of a
              central depository system (CDS) in a stock market?   (4 marks)

(Total: 20 marks)

QUESTION SIX

(a)   Outline the factors which contributed to the popularity of commercial papers over bank
          overdrafts among large corporations in the 1990s.   (4 marks)

(b)   Clearly distinguish between "factoring" and "invoice discounting" in the context of the
          management of debtors.   (8 marks)

(c)   "Not all new issues of shares are underwritten, but it is clearly better to arrange that they
          should be if there is any chance than the issue may be unsuccessful". Briefly comment
          on this statement. (8 marks)

(Total: 20 marks)

DECEMBER 2011

Answer ALL questions in SECTION I and ONE question in SECTION II. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

(a)   Briefly explain how the "Dow Theory" views the movement of the market prices of shares traded on a stock exchange.   (5 marks)

(b)   Identify and briefly explain the factors that must be taken into account in the design and construction of a market index for shares.   (5 marks)

(c)   Joseph Kimeu is trying to determine the value of Bidii Ltd."s ordinary shares. The earnings growth rate over his planned six-year holding period is estimated to be 10%, and the dividend payout ratio is 60%. The ending price earnings (P/E) ratio is expected to be 20 and the current earnings per share are Sh.4. The required rate of return for this share is 15%.

Required:
Compute the market price of Bidii Ltd"s ordinary share.   (10 marks)

(Total: 20 marks)

QUESTION TWO

(a)   In making investment decisions, cashflowss are considered to be more important than accounting profits. Briefly explain why this is the case.   (4 marks)

(b)   Magma Ltd. wishes to make a choice between two mutually exclusive projects. Each of these projects requires Sh.400,000,000 in initial cash outlay. The details of the two projects are as follows:

Project A
This project is made up of two sub-projects. The first sub-project will require an initial outlay of Sh.100,000,000 and will generate Sh.25,600,000 per annum in perpetuity. The second sub-project will require an initial outlay of Sh.300,000,000 and will generate Sh.85,200,000 per annum for the 8 years of its useful life. This sub-project does not have a residual value at the end of the 8 years. Both sub-projects are to commence immediately.

Project B
This project will generate Sh.87,000,000 per annum in

perpetuity. The company has a cost of capital of 16%.

Required:

(i)   Determine the net present value (NPV) of each project.   (6 marks)

(ii)   Compute the internal rate of return (IRR) for each project.   (6 marks)

(iii)   Advise Magma Ltd. on which project to invest in, and justify your choice.
                                                                              (4 marks)
                                                                        (Total: 20 marks)

QUESTION THREE

(a)   Distinguish between financial risk and operating risk.   (4 marks)

(b)   Swaleh Ltd. has been in operation for the last eight years. The company is all equity financed with 6 million ordinary shares with a par value of Sh.5 each. The current market price per share is Sh.8.40, which is in line with the price/earnings (P/E) ratio in the industry of 6.00. The company has been consistent in paying a dividend of Sh.1.25 per share during the last five years of its operations, and indications are that the current level of operating income can be maintained in the foreseeable future. Tax has been at a rate of 30%.

The management of Swaleh Ltd. is contemplating the implementation of a new project which requires Sh.10 million. Since no internal sources of funds are available, management is to decide on two alternative sources of finance, namely:

Alternative A
To raise the Sh.10 million through a rights issue. Management is of the opinion that a price of Sh.6.25 per share would be fair.

Alternative B
To obtain the Sh.10 million through a loan. Interest is to be paid at a rate of 12% per annum on the total amount borrowed.

The project is expected to increase annual operating income by Sh.5.6 million in the foreseeable future.

Irrespective of the alternative selected in financing the new project, corporation tax is expected to remain at 30%.

Required:
(i)   Determine the current level of earnings per share (EPS) and the operating
        income of the company.   (3 marks)

(ii)   If Alternative A is selected, determine the number of shares in the rights issue
        and the theoretical ex-rights price.   (3 marks)

(iii)   Calculate the expected earnings per share (EPS) for each alternative, and advise
        Swaleh Ltd. on which alternative to accept.   (6 marks)

(iv)   "It is always better for a company to use debt finance since lower cost of debt
        results in higher earnings per share".

        Briefly comment on this statement.   (4 marks)
                                                                        (**Total: 20 marks)**

QUESTION FOUR

Pokea Cellphone Operators Ltd. started operations on 1 September 2002. The company raised the required equity capital of Sh.65 million and debt at an annual rate of interest of 18% before commencing business. Given below are some statistics extracted from the books of the company in respect of the financial statements prepared to 31 August 2003.

	Sh."000"
Total fixed assets (Net book value)	75,000
Operating costs (excluding debt interest)	39,150
Dividends declared and paid	4,220
Cash and bank balances	3,125

Eighty percent (80%) of the sales were on credit. The current assets on 31 August 2003 consisted of only stock, debtors and cash and bank balances as given above, while current liabilities consisted of only creditors and tax provided for in respect of the year to 31 August 2003. Taxation was provided for at the rate of 30%.

You are also provided with the following ratios which have been determined from the financial statements of Pokea Cellphone Operators Ltd.

Fixed assets turnover	1.8 times
Gross profit margin	45%
Stock turnover	4.4 times
Interest cover	4 times
Average debt collection period (based on 360 days of the year)	84 days
Current ratio	2.5:1

Required:

(a) In respect of the year ended 31 August 2003, you are required to prepare the company"s:

    (i)   Trading profit and loss account.   (8 marks)

    (ii)   Balance sheet.   (8 marks)

(b) The following statistics have been provided with respect to the industry in which the company operates:

Acid test ratio	1.2:1
Return on equity	21%
Capital gearing ratio	36%

Required:
Comment on the performance of the company relative to these industry statistics.

    (4 marks)

(Total: 20 marks)

SECTION II

QUESTION FIVE

(a) Briefly explain the liquidity – profitability trade – off which a business enterprise may be required to consider in its financial management policies.   (4 marks)

(b)   How does a company"s working capital policy impact on its liquidity – profitability
       position? Explain with reference to the strategies available to the firm for financing its
       working capital.   (6 marks)

(c)   Briefly describe the three forms of capital market efficiency.   (6 marks)

(d)   Highlight four factors that may underlie the low rate of listing of companies in a stock
       exchange you are familiar with.   (4 marks)
                                                                    (Total: 20 marks)

QUESITON SIX

(a)   Differentiate between the following pairs of terms:

       (i)   Market value and intrinsic value of a share.   (4 marks)

       (ii)   Weighted cost of capital and marginal cost of capital.   (4 marks)

       (iii)   Capital structure and financial structure.   (4 marks)

       (iv)   Formal markets and over-the-counter markets.   (4 marks)

(b)   Identify four factors that have limited the development of the venture capital market in
       your country.   (4 marks)
                                                                    (Total: 20 marks)

JUNE 2012

Answer ALL questions in SECTION I and ONE question in SECTION II. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

(a)   Explain the meaning of the term "cost of capital" and explain why a company should calculate its cost of capital with care.   (4 marks)

(b)   Identify and briefly explain three conditions which have to be satisfied before the use of the weighted average cost of capital (WACC) can be justified.   (6 marks)

(c)   Biashara Ltd. has the following capital structure:

	Sh."000"
Long-term debt	3,600
Ordinary share capital	6,500
Retained earnings	4,000

The finance manager of Biashara Ltd. has a proposal for a project requiring Sh.45 million. He has proposed the following method of raising the funds:

- Utilise all the existing retained earnings
- Issue ordinary shares at the current market price.
- Issue 100,000 10% preference shares at the current market price of Sh.100 per share which is the same as the par value.

- Issue 10% debentures at the current market price of Sh.1,000 per debenture.

Additional information:
1.   Currently, Biashara Ltd. pays a dividend of Sh.5 per share which is expected to grow at the rate of 6% due to increased returns from the intended project.
       Biashara Ltd."s price/earnings (P/E) ratio and earnings per share (EPS) are 5 and Sh.8 respectively.
2.   The ordinary shares would be issued at a floatation cost of 10% based in the market price.
3.   The debenture par value is Sh.1,000 per debenture.
4.   The corporate tax rate is 30%.

Required:
Biashara Ltd."s weighted average cost of capital (WACC).   (10 marks)

(Total: 20 marks)

QUESTION TWO

(a)   In the context of capital budgeting, explain the difference between "hard rationing" and "soft rationing".   (6 marks)

FINANCIAL
MANAGEMENT

(b)   The finance manager of Bidii Industries Ltd., which manufactures edible oils, has identified the following three projects for potential investment:

Project I

The project will require an initial investment ofSh.18 million and a further investment of Sh.25 million at the end of two years. Cash profits from the project will be as follows:

		Sh.
End of year	2	15,000,000
	3	12,000,000
	4	8,000,000
	5	8,000,000
	6	8,000,000
	7	8,000,000
	8	8,000,000

Project II

This project will involve an initial investment of Sh.50 million on equipment and Sh.18 million on working capital. The investment on working capital would be increased toSh.20 million at the end of the second year. Annual cash profit will be Sh.20 million for five years at the end of which the investment in working capital will be recovered.

Project III

The project will require an initial investment on capital equipment of Sh.84 million and Sh.24 million on working capital. The profits from the project will be as follows:

		Contribution Sh.	**Fixed costs Sh.**
End of year	1	35 million	8 million
End of year	2	30 million	6 million
End of year	3	14 million	8 million

Fixed costs include an annual depreciation charge ofSh.3 million. At the end of year 3, the working capital investment will be recovered and the capital equipment will be sold for Sh.8 million.

Bidii Industries Ltd."s cost of capital is 12%. Ignore taxation.

Required:
(i)   Evaluate each project using the net present value (NPV) method.   (12 marks)

(ii)   Which of the three projects should Bidii Industries Ltd. accept?   (2 marks)
                                               (Total: 20 marks)

QUESTION THREE

(a)   What is meant by the term "matching approach" in financing fixed and current assets?
                                                           (4 marks)

(b)   Briefly explain how the Miller-Orr cash management model operates.   (4 marks)

(c)   Dawamu Ltd., which operates in the retail sector selling a single product, is considering a change of credit policy which will result in an increase in the average collection period of debts from one to two months. The relaxation of the credit policy is expected to produce an increase in sales in each year, amounting to 25% of the current sales volume. The following information is available.

      1.   Selling price per unit of product – Sh.1,000
      2.   Variable cost per unit of product – Sh.850
      3.   Current annual sales of product – Sh.240,000,000
      4.   Dawamu Ltd."s required rate of return on investments is 20%.
      5.   It is expected that increase in sales would result in additional stock of Sh.10,000,000 and additional creditors ofSh.2,000,000.

Required:

Advise Dawamu Ltd. on whether or not to extend the credit period offered to customers, if:

(i)   All customers take the longer credit period of two months.   (6 marks)
(ii)   Existing customers do not change their payment habits and only the new customers will take a full two months" credit.   (6 marks)

(Total: 20 marks)

QUESTION FOUR

The following is the summarized balance sheet of Kaka Kuona Ltd. as at 30 November 2003:

	Sh.
Fixed assets:	
Land and buildings	60,000,000
Furniture and fittings	8,000,000
Current Assets:	
Stock	35,000,000
Prepaid expenses	5,000,000
Debtors	30,000,000
Cash in hand	10,000,000
	148,000,000
Financed by:	
Capital:	
Ordinary shares of Sh.10 each	60,000,000
Retained earnings	10,000,000
Long term liability:	
Long-term debt	18,000,000
Current liabilities	
Creditors	40,000,000
Accruals	20,000,000
	148,000,000

Additional information:

1.   In the past, Kaha Kuona Ltd."s earnings per share (EPS) averaged Sh.6 and the dividend payout rate was 50% or Sh.3 per share. For the year ended 30 November 2003, the EPS declined to Sh.2.50. Because it was felt that this decline was temporary, the annum

dividend of Sh.3 per share was maintained for the financial year ended 30 November 2003, as well as for the first six months of the financial year ending 30 November 2004.

2.   Recent projections, however, have caused management to revise downwards the expected EPS. For the financial year ending 30 November 2004, the forecast of EPS as been reduced to Sh.2 per share and for the financial year ending 30 November 2005, adjusted to Sh.2.20.

3.   Kaka Kuona Ltd."s ordinary shares are currently selling in the market at Sh.15 per share.

Management of Kaka Kuona Ltd. is considering whether or not to retain the cash dividend of Sh.3 per share for the next two financial years.

Required:

(a)   Calculations to help determine whether it will be feasible to maintain dividends at Sh.3 per share for the next two financial years.   (8 marks)

(b)   Determine whether the company should replace the cash dividend with a bonus issue of one share for every four ordinary shares.   (6 marks)

(c)   Explain the course of action that the management of Kaka Kuona Ltd. should take in the light of the declining projections in dividend payouts.   (6 marks)

(Total: 20 marks)

SECTION II

QUESTION FIVE

(a)   Identify and briefly explain the three main forms of agency relationship in a firm.

(6 marks)

(b)   (i)   What is financial intermediation?   (3 marks)
        (ii)   Identify any five services that financial intermediaries provide.   (5 marks)

(c)   What are the differences between an "operating lease" and a "finance lease"? (6 marks)

(Total: 20 marks)

QUESTION SIX

(a)   What are the determinants of the price of a bond?   (4 marks)

(b)   Identify six ways in which a company could make preference shares more attractive to a potential investor.   (6 marks)

(c)   (i)List and briefly discuss three possible reasons why companies in the same type of business may have different price/earnings (P/E) ratios.   (6 marks)

        (ii)   Comment on the view that the price/earnings (P/E) ratio is an "attempt to value a company in terms of its earnings".   (4 marks)

(Total: 20 marks)

DECEMBER 2012

Answer **ALL** questions in **SECTION I** and **ONE** question in **SECTION II**. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

(a)   Distinguish between a credit policy and a working capital policy.   (4 marks)

(b)   List four factors that should be considered in establishing an effective credit policy.

(4 marks)

(c)   The management of Faulu Limited intends to change the company"s credit policy, from „net 30" to „3/10 net 45". If this change is effected, annual sales will increase by 12% from the current level of Sh.12 million while the proportion of bad debts will increase from 1% to 1.4% of credit sales. A new credit assistant will also have to be employed at a salary of Sh.260,000 per annum. It is expected that 40% of the credit customers will benefit from the cash discount.

The inventory level and the variable costs will however remain constant at 20% and 75% of the annual credit sales respectively. The rate of return on investment is 14% per annum. All sales are on credit.

Assume a 360 days financial year and ignore the effects of taxation.

Required:
Advise the management of Faulu Limited on whether or not to adopt the new credit policy. (12 marks)

(Total: 20 marks)

QUESTION TWO

(a)   Several methods exist for evaluating investment projects under capital budgeting.

Identify and explain three features of an ideal investment appraisal method. (6 marks)

(b)   Mapato Limited is a company involved in the processing of cooking oil. The management is considering whether to replace an existing cooler with a new one.

The old cooler is fully depreciated and has no salvage value. If not replaced, the company will continue to incur Sh.1.8 million as annual operating expenses and an additional Sh.500,000 in repair costs per annum over the next fifteen years.

The new cooler costs Sh.3,150,000. Its annual operating expenses and repair costs are estimated at Sh.1.3 million and Sh.350,000 respectively over its estimated economic life of fifteen years. It is expected to be worthless after the expiry of this period.

The cost of capital is 10% and the company depreciates its assets using the straight-line method.

Assume a 30% corporation tax rate.

Required:
(i)   Compute the incremental net annual cash flows if the old cooler is replaced.
                                                                         (10 marks)

(ii)   Using the net present value (NPV) method, advise the management on whether
         or not to replace the old cooler.   (4 marks)
                                                                 (Total: 20 marks)

QUESTION THREE

(a)   List three advantages of a rights issue from the point of view of:

         (i)   The issuing company.   (3 marks)
         (ii)   The shareholder.   (3 marks)

(b)   Hisa Limited has 1 million ordinary shares outstanding at the current market price of
         Sh.50 per share. The company requires Sh.8 million to finance a proposed expansion
         project. The board of directors has decided to make a one for five rights issue at a
         subscription price of Sh.40 per share.

         The expansion project is expected to increase the firm"s annual cash inflow by
         Sh.945,000. Information on this project will be released to the market together with the
         announcement of the rights issue.

         The company paid a dividend of Sh.4.5 in the previous financial year. This dividend,
         together with the company"s earnings is expected to grow by 5% annually
         after investing in the expansion project.

         Required:
         (i)   Compute the price of the shares after the commencement of the rights issue
                  but before they start selling ex-rights.   (4 marks)
         (ii)   Compute the theoretical ex-rights price of the shares. (2 marks)
         (iii)   Calculate the theoretical value of the rights when the shares are selling rights
                  on.   (2 marks)
         (iv)   What would be the cum-rights price per share if the new funds are used to
                  redeem a Sh.8 million 10% debenture at par? (Assume a corporation tax rate of
                  30%).   (6 marks)
                                                                 (Total: 20 marks)

QUESTION FOUR

Ushindi Limited presented the following financial statements on 30 June 2004.

Income statement for the year ended 30 June 2004

	Sh.
Sales (all on credit)	4,000,000
Operating profit	440,000
Less: debenture interest	40,000
	400,000
Corporation tax	176,000
	224,000
Ordinary dividends proposed	107,200
Retained profit	116,800

Balance Sheet as at 30 June 2004

	Shs.	Shs.	Shs.
Fixed assets:			
Freehold property (Net book value)			480,000
Plant and machinery (Net book value)			800,000
Motor vehicle (Net book value)			200,000
Furniture and fittings			200,000
			1,680,000
Current assets:			
Stock		1,000,000	
Debtors		400,000	
Investments		120,000	
		1,520,000	
Current liabilities			
Trade creditors	238,400		
Bank overdraft	878,400		
Corporation tax	176,000		
Dividend payable	107,200	(1,400,000)	120,000
			1,800,000
Financed by:			
Authorized share capital: 800,000 Sh.1 ordinary shares			800,000
Issued and fully paid: 400,000 Sh.1 ordinary shares			400,000
			200,000
Capital reserve			800,000
Revenue reserve			400,000
Loan capital: 400,000 Sh.1 10% debentures			1,800,000

Additional information:

1.   An analysis of the industry in which the company operates reveals the following industrial averages:

      Current ratio   1.5:1
      Quick ratio   0.8:1

2.   The purchases for the year were Sh.2,160,000 while the cost of sales was Sh.3,000,000.
3.   The market price of the company"s shares as at 30 June 2004 was Sh.5.

Required:

(a)   Compute the following ratios for Ushindi Limited:

(i)	Return on capital employed	(2 marks)
(ii)	Turnover of capital	(2 marks)
(iii)	Operating expenses ratio.	(2 marks)
(iv)	Accounts receivable turnover in days	(2 marks)
(v)	Dividend yield.	(2 marks)
(vi)	Price earnings ratio	(2 marks)
(vii)	Market value to book value ratio	(2 marks)
(viii)	Current ratio	(2 marks)

(b)   Compare the company"s liquidity performance with that of the industry.   (4 marks)

(Total: 20 marks)

SECTION II

QUESTION FIVE

(a)   Although profit maximization has long been considered as the main goal of a firm, shareholder wealth maximization is gaining acceptance amongst most companies as the key goal of a firm.

Required:
(i)   Distinguish between the goals of profit maximization and shareholder wealth maximization.   (4 marks)
(ii)   Explain three limitations of the goal of profit maximization.   (6 marks)

(b)   Explain three key roles of a capital markets regulator in your country.   (6 marks)

(c)   Highlight the importance of the following terms in investment appraisal:

(i)   Internal rate of return (IRR)   (2 marks)
(ii)   Payback period.   (2 marks)

(Total: 20 marks)

QUESTION SIX

(a)   "Since debt capital is cheaper than equity, companies should resort to one hundred percent use of debt to finance their investments".

Discuss the limitations of the above financing policy.   (8 marks)

(b)   Distinguish between the following sets of terms:

(i)   Treasury bills and treasury bonds.   (4 marks)
(ii)   Complementary projects and mutually exclusive projects.   (4 marks)
(iii)   Stock splits and stock dividends.   (4 marks)

(Total: 20 marks)

KENYA ACCOUNTANTS AND SECRETARIES NATIONAL EXAMINATIONS BOARD

CPA PART II
CSIA PART II

CPS PART II

FINANCIAL MANAGEMENT

June 2013   **Time Allowed: 3 hours**

Answer ALL questions in SECTION I and ONE question in SECTION II. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

(a)   Distinguish between the following terms:
  - (i)   Cum-dividend and ex-dividend.   (4 marks)
  - (ii)   Cum-all and ex-all.   (4 marks)

(b)   Akili Limited has issued a debenture whose par value is Shs. 1,000. The debenture can be redeemed at par after four years or converted to ordinary shares at a conversion rate of Shs. 100 per share. The projected market price of the share after the four year period could either be Shs. 90 or Shs. 120 based on the company"s performance. The investors required rate of return is 10%.

    Required:
    The value of the debenture based on each of the expected share prices.   (8 marks)

(c)   Motor Works Limited intends to raise additional capital through an issue of ordinary shares of Shs. 80 par value. The company promises to pay dividend at the rate of Shs. 8 per annum and the expected market price of the shares after six years is Shs. 120.
    An investor whose required rate of return is 10% intends to hold the shares for six years.

    Required:
    The intrinsic value of the shares   (4 marks)
                                                                 (Total: 20 marks)

QUESTION TWO

(a)   Highlight four uses of the cost of capital to a limited liability company.   (4 marks)
(b)   The Finance Manager of Mapato Limited has compiled the following information regarding the company"s capital structure.   (4 marks)

    Ordinary shares
    The company"s equity shares are currently selling at Shs. 100 per share. Over the past five years, the company"s dividend pay-outs which have been approximately 60% of the earnings per share were as follows:

Year ended 30 September	Dividend per share
	Shs.
2004	6.60
2003	6.25
2002	5.85
2001	5.50
2000	5.23

The dividend for the year ended 30 September 2004 was recently paid.

The average growth rate of dividend is 6% per annum.

To issue additional ordinary shares, the company would have to issue at a discount of Shs. per share and it would cost Shs. 5 in floatation cost per share.

The company can issue unlimited number of shares under the above terms.

Preference shares

The company can issue an unlimited number of 8% preference shares of Shs. 10 par value at a floatation cost of 5% of the face value per share.

Debt

The company can raise funds by selling Shs. 100, 8% coupon interest rate, 20 year bonds, on which annual interest will be made.

The bonds will be issued at a discount of Shs. 3 per bond and a floatation cost of an equal amount per bond will be incurred.

Capital structure
The company"s current capital structure, which is considered optimal, is:

	Shs.
Long term debt	30,000,000
Preference shares	20,000,000
Ordinary shares	45,000,000
Retained earnings	5,000,000
	100,000,000

The company is in the 30% tax bracket.

Required:
(i)   The specific cost of each source of financing.   (12 marks)
(ii)   The level of total financing at which a break even point will occur in the
        company"s weighted marginal cost of capital.   (4 marks)
                                                                        (Total: 20 marks)

QUESTION THREE

(a)   Distinguish between the following terms as used in the management of working capital:
        (i)   Overtrading and overcapitalization.   (4 marks)
        (ii)   Factoring and pledging of debtors   (4 marks)

(b)   The following information relates to Mafuta Safi Limited:

	Shs. „000"

Purchase of raw materials	6,700
Usage of raw materials	6,500
Sale of finished goods (all on credit)	25,000
Cost of sales (finished goods)	18,000
Average creditors	1,400
Average raw materials stock	1,200
Average work in progress	1,000
Average finished goods stock	2,100
Average debtors	4,700

Assume a 365 days year.

Required:
The length of the operating cash cycle   (12 marks)
                                                                              (Total: 20 marks)

QUESTION FOUR

(a)   Mwongozo Limited has approached you for advice on an equipment to be purchased
        for use in a five year project.

        The investment will involve an initial capital outlay of Shs. 1.4 million and the expected
        cash flows are given below:

Year	Cash inflows Shs.	Cash outflows Shs.
1	800,000	65,000
2	750,000	80,000
3	900,000	50,000
4	1,200,000	55,000
5	1,100,000	70,000

        The equipment is to be depreciated on a straight line basis over the duration of the
        project with a nil residual value.
        The cost of capital and the tax rate are 12% and 30% respectively.

        Required:
        The net present value (NPV) of the investment.   (8 marks)

(b)   Beta Leather Company Limited is considering acquiring an additional leather processing
        machine at a cost of Shs. 18 million. The machine is expected to generate after tax
        savings of Shs. 3,600,000 per year over an eight year period.
        The policy of the company is to finance capital investments with a 50% debt. The
        company is able to borrow Shs. 9 million at 10% interest per annum to finance the
        purchase of the machine in part. The loan principal is to be paid in equal annual
        instalments of Shs. 1,125,000 payable at the year end. The company"s
        required rate ofreturn is 13% and the company is in the 30% tax bracket.

Required:

(i)   The net present value (NPV) of the machine if fully financed by equity to acquire the machine.   Advise the management on whether to finance it by equity or loan.   (4 marks)

(ii)   The net present value (NPV) of „the machine with part debt financing. Would your advice to the management in (b) (i) above change?   (8 marks)

(Total: 20 marks)

SECTION II

QUESTION FIVE

(a)   Distinguish between primary and secondary securities market.   (4 marks)

(b)   "Despite the large investment in the stock exchange and the various government incentives, only a few companies are listed at the stock exchange of the three East African countries."

This was the opening remark by the guest speaker in a seminar whose theme was "Developing our capital market."

Required:

(i)   The advantages of being listed at the stock exchange.   (8 marks)

(ii)   Highlight four factors that may hinder companies from being listed at the stock exchange.   (8 marks)

(Total: 20 marks)

QUESTION SIX

(a)   Write short notes on the following:

(i)   Systematic and unsystematic risk.   (4 marks)

(ii)   Conservative credit policy and liberal credit policy.   (4 marks)

(b)   Discuss the limitations of using ratio analysis in the evaluation of the performance of a company.   (12 marks)

(Total: 20 marks)

KENYA ACCOUNTANTS AND SECRETARIES AND NATIONAL EXAMINATIONS BOARD

CPA PART II
CSIA PART II
CPS PART II

FINANCIAL MANAGEMENT

December 2013   Time Allowed: 3 hours.

Answer ALL questions in SECTION I and ONE question in SECTION II. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION I

QUESTION ONE

(a)   Define the following finance terms:
     (i)   Term structure of interest rates.   (2 marks)
     (ii)   Scrip dividends.   (2 marks)
     (iii)   Share splits   (2 marks)

(b)   Zatex Ltd. had the following capital structure as at 31 March 2005:

	Shs.
Ordinary share capital (200,000 shares)	4,000,000
10% Preference share capital	1,000,000
14% Debenture capital	3,000,000
	8,000,000

Additional information:
1. The market price of each ordinary share as at 31 March 2005 was Shs. 20.
2. The company paid a dividend of Shs. 2 for each ordinary share for the year ended 31 March 2005.
3. The annual growth rate in dividends is 7%.
4. The corporation tax rate is 30%.

Required:
(i)   Compute the weighted average cost of capital of the company as at 31 March 2005.   (4 marks)
(ii)   The company intends to issue a 15% Shs. 2 million debenture during the year ending 31 March 2006. The existing debentures will not be affected by this issue. The dividend per share for the year ending 31 March 2006 is expected to be Shs. 3 while the average market price per share over the same period is estimated to be Shs. 15. The average annual growth rate in dividends is expected to remain at 7%.

     Compute the expected weighted average cost of capital as at 31 March 2006.
                                   (4 marks)

(c)   Jasho Ltd. paid an ordinary dividend of Shs. 3.60 per share for the year ended 31 March
         2005. The management of the company projects that the earnings of the company will
         increase in the coming years as follows:

Year ending 31 December	Projected earnings growth rate
2006	25%
2007	20%
2008	20%
2009 and subsequent years	10% per annum

The investors" required rate of return is 18%.

Required:
Determine the value of an ordinary share in Jasho Ltd. as at 31 March 2005.

(6 marks)
(Total: 20 marks)

QUESTION TWO

(a)   Outline four limitations of the accounting rate of return (ARR) method of appraising
         new investments.   (4 marks)

(b)   The management of Biashara Ltd. is in the process of evaluating two
         alternative machine models, Alpha and Beta for possible purchase in order to
         increase the **company"s product**ion level.

         The following additional information is available:
         1.   Alpha costs Shs. 3,800,000 and will have a useful life of four years.
         2.   Beta costs Shs. 8,000,000 and will have a useful life of six years.
         3.   Both machines have no salvage value after their useful lives.
         4.   An investment in working capital amounting to Shs. 825,000 will have to be made
              at the beginning of the first year of the machine"s life regardless of the
              model purchased.
         5.   The estimated pre-tax cash inflows for each of the machines are shown below:

Year	Machine Alpha Shs.	Beta Shs.
1.	2,590,000	4,300,000
2.	2,880,000	3,290,000
3.	3,050,000	3,200,000
4.	2,950,000	3,700,000
5.	-	4,850,000
6.	-	4,420,000

6.   The cost of capital to the company is 12% and the corporation tax rate is 30%.

Required:
(i)   Calculate the undiscounted pay back period for each machine model. (4 marks)
(ii)   Calculate the net present value (NPV) for each machine model.   (6 marks)
(iii)   Using the net present values computed in (ii) above, advise the management on
         which model to purchase.   (2 marks)

(iv)   The management of the company has received an alternative offer to lease Alpha at an annual lease charge of Shs. 1,200,000 for four years, payable at the year end. All other details remain unchanged.

Will this offer affect your selection in part (iii) above? Explain.   (4 marks)
(Total: 20 marks)

QUESTION THREE

(a)   Briefly explain the operations of the central depository system (CDS) in facilitating securities trading.   (4 marks)
(b)   Discuss the functions of the central bank of your country.   (8 marks)
(c)   Mauzo Ltd. has issued 72,000 ordinary shares as at 31 March 2005. The company had maintained an annual dividend payment of Shs. 180,000 including for the year ended 31 March 2005.

On 3 April 2005, the management of the company identified an investment opportunity which would cost Shs. 720,000. This cost was expected to be financed through an issue of ordinary shares at par. The return on this investment is expected to be 25% per annum on cost over the next four years ending 31 March 2009.

All earnings would continue to be paid out as dividends to shareholders. The cost of capital is 20%.

Required:
(i)   Calculate the value of an ordinary share as at 31 March 2005.   (2 marks)
(ii)   Calculate the value of the company as at 3 April 2005 assuming that the management undertook the investment.   (6 marks)
(Total: 20 marks)

QUESTION FOUR

(a)   State two advantages and two disadvantages of a bank overdraft as a source of finance to a business.   (4 marks)
(b)   Highlight the factors that determine the cost of finance to a business.   (4 marks)
(c)   Banda Ltd. has four categories of debtors; A, B, C and D. The average collection period and the percentage of bad debts for each category of debtors is shown below:

Category	Average collection period (days)	Bad debts (%)
A	15	0.5
B	20	2.5
C	30	5.0
D	40	9.5

The profit per unit of the company"s product is shown below:

	Shs.	Shs.
Selling price		25
Less: materials	10	
Wages	9.5	
Variable costs	3	
Fixed costs	0.5	23
Profit		2

FINANCIAL MANAGEMENT

The company has the opportunity to increase its sales by Shs. 10,000,000 per annum, split between categories C and D of the debtors in the proportion 2:3 respectively. The company borrows at an interest rate of 11.5% per annum (assume a year has 365 days).

Required:

(i) Calculate the additional contribution to be realized from the increased sales.

(4 marks)

(ii) Calculate the bad debts expense arising from the increased sales for each category of debtors. (2 marks)

(iii) Compute the net profit or loss realized from the increased sales. (6 marks)

(Total: 20 marks)

SECTION II

QUESTION FIVE

(a) Describe the benefits to a country of integrating its financial markets with those of other countries. (12 marks)

(b) Distinguish between the following terms:

(i) Weighted average cost of capital and marginal cost of capital. (4 marks)

(ii) Finance lease and operating lease. (4 marks)

(Total: 20 marks)

QUESTION SIX

(a) Define a "stock market index." (2 marks)

(b) Highlight the main problems encountered in the construction and use of a stock market index. (8 marks)

(c) Explain five uses of security market indices. (10 marks)

(Total: 20 marks)

Answers – Past Papers

SUGGESTED SOLUTIONS TO THE PAST PAPER QUESTIONS

DECEMBER 2008

QUESTION ONE

(a)   (i) **PRIMARY MARKET**

Raising Capital Business
- mobilizing savings
- Government can raise capital (sell bonus)
- Open market operators (control excess liquidity)
- Vehicle for Foreign Direct Investment

(ii)   **SECONDARY MARKET**
- Investment improvement for companies and small investors.
- Barometer for Healthy of economy and companies (as whole)
- Privatization of parastatals and giving local citizens a chance for ownership of multi-national companies.
- Realize investments (by disposal in small quantities due to separation of ownership and control.
- Improves corporate governance
- Diversification of investments hence reduction of risk
- Liquidity of securities improved.

(iii)   (i) Diversification
(ii)   Professional advice
(iii)   Watchdog for share under/over valuation
(iv)   Enhances market efficiency through information.

(b)   (i) Protects investors from financial losses
(ii)   Establishes Rules & Regulations for private placement of securities
(iii)   Removal for impendment and creation of incentives for lonf term investment. of investors.
(iv)   Facilitate National wide system of Brokerage services
(v)   Creation maintenance and regulation market for securities.
(vi)   Creation for environment which will encourage local companies go public.
(vii)   Removal of Barriers to security transfers
(viii)   Encourage Development of International Investors - eg insurance and premium co"s
(ix)   Introduces wider range of Investments in the market
(x)   Decentralize operations of market to Rural Areas.
(xi)   Provide adequate information to players in market for efficient pricing of securities.

QUESTION TWO

Alternative

(a)   (i)Average yield = $\dfrac{9.10 + 9}{2}$ = 9.05

For 3 months the yield = $\dfrac{9.05}{3}$ = 3.02

Par value   = $\dfrac{1}{1 + 0.0302}$ = 97.07%

(ii)Average yield for June $\dfrac{18.55}{2}$ = 9.275%

9.275% for 4 months = 2.31875 per month

Par value   = $\dfrac{1}{1 + 0.023875}$ = 97.73%

Rate of return   = $\dfrac{97.73\ -\ 97.07}{97.07}$

= **0.68%**

(b)   (i) An index in general terms is a measure of relative change from one point in price to another. Stock indices measure changes in price or value.

(ii)   Drawbacks of NSE:
- 20 companies not true representatives
- Thinness of the market – small changes in the active stocks tend to be considerably magnified in the index.
- 1966 base year too far in the past
- Relatively small price changes – some stock prices do not change for weeks on end.
- Lack of clear portfolio selection criteria
- Use of arithmetic instead of preferred geometric mean in computing index.
- New companies have been quoted and others deregistered.

(c)   (i) A commercial paper is unsecured short term financial instrument issued at a discount by financially stable and sound firm to raise short term funds.

(ii)   Advantages of C.P:

- Cheap source of funds (low interest rate)
- Improves credit rating of borrower
- Conserves long term sources of funds and attracts other sources of finance.

QUESTION THREE

(a)   Difficulties faced in capital budgeting

-       Uncertainty of variables e.g annual cash flows, discounting rates, changes in technology, inflation rate, changes in tax rates etc.
-       Lack of adequate capital to undertake all viable profits (capital rationing)
-       Lack of adequate information on the available investment opportunities e.g in case of mutually exclusive profits NPV and IRR will have conflict in banking of profits under some circumstances.
-       Identification of all the quantifiable and non quantifiable costs and benefits association with a project.

(b)   The old grinder still has 5 more years. Determine the NBV (today) after the lapse of 3 years using 15% depreciation rate.

	Sh."000"
First 3 years ago	3,500
Less: Depreciation 15%	
Year 1	525
	2,975
Year 2	446
	2,529
Year 3	379
NBV "today" end of year 3	2,150

The depreciation for the first 3 years is a sunk or historical variable, irrelevant in replacement decision.
Carry out the increamental analysis using the fifth steps

(i)   Compute increamental initial capital

		Sh.„000"
Price of new machine (dep. Cost)		7,000
Less: MV of existing machine		(4,000)
Add: Increamental net working capital		-
Current MV of existing machine	4,000	
NBV today	2,150	
Gain on disposal	1,850	
Tax payable on gain = 30% x 1850		555
(outflow)		3,555
Increamental initial capital		

(ii)   Compute increamental depreciation using 25% depreciation rate on reducing balance basis – over a period of 5 years.

	New machine Depreciation	Old machine depreciation	Increamental depreciation	
Depreciable cost	7,000	2,150		
Year 1 dep at 25%	<u>1,750</u>	<u>538</u>	1750 – 538 =	1,212
	5,250	1,612		
	<u>1,313</u>	<u>403</u>	1313 – 403 =	910
Year 2	3,937	1,209		
	<u>984</u>	<u>302</u>	984 – 302 =	682
Year 3	2,953	907		
	<u>738</u>	<u>227</u>	738 – 227 =	511
Year 4	2,215	680		
	<u>2,005</u>	<u>680</u>	2005 – 680 =	<u>1,325</u>
Year 5 balancing figure	210	0		4,640
Salvage value at the end of year 5				

(iii)   Compute increamental salvage value

Salvage value of new machine   210
Less: old machine   <u>0</u>

Increamental salvage value end of year 210 5

(iv)   Compute annual operating cash flows and NPV using 12% cost of capital.
In deriving the operating cash flows:

Recall:
If increamental EBDT > Increamental depreciation p.a. then operating cash flows will be derived as:
EBDT less depreciation,
EBT less Tax,
Add   back
Depreciation, EAT

EBDT	XXX
Less: Depreciation	<u>XX</u>
EBT	XX
Less Tax	<u>X</u>
EAT	XX
Add back depreciation	<u>XX</u>
Operating cash flows	XX

If EBDT < Increamental depreciation p.a.
Then operating cash flows = EBDT$(1 – T)$ + DTS
Where DTS = Depreciable tax shield = Depreciation p.a. x tax rate.

Increamental depreciation for each year is higher than increamental EBDT of Ksh.400,000 p.a.

Year	EBDT(1-T)	DTS	Operating Cash flows	Sh."000" PVIF12%,n	P.V
1.	400(1-0.3) = 280	1213 x 0.3 = 364	280 + 364 = 644	0.893	575
2.	400(1-0.3) = 280	910 x 0.3 = 273	280 + 273 = 553	0.797	441
3.	400(1-0.3) = 280	682 x 0.3 = 205	280 + 205 = 485	0.712	345
4.	400(1-0.3) 280	511 x 0.3 = 153	280 + 153 = 433	0.636	275
5.	400(1-0.3) 280	1325 x 0.3 = 398	280 + 398 = 678	0.567	384
5.	Increamental savage value $= 210 - 0 = 210$			0.567	119
					2,139

Total increamental p.v of cash flows
Less increamental initial capital   (3,555)
Increamental N.P.V (negative)   (1,417)

QUESTION FOUR

(a)   Net contribution = 30% (20%) Sh.12,000,000 = Sh.720,000

Additional cost

Cost of Financing Receivable

New policy = $\frac{75}{360}$ x Sh.14,400,000 = Sh.300,000
Debtor

Increase in debtor level = Sh. 150,000

Increased cost of debtor 20% x Sh.160,000 =   Sh.300,000
                                        Sh.420,000
Net gain adopting New policy.

Decision Change / Adopt New Policy.

(b) (i) Price of share   = PV (Future Dividends)
                             Over next 6 years +
                       PV of share at end of 6th year.
                       I = 18%

                           Dividend

Year	Growth	Compounded	$(I + L)^{-n}$	Present Value

1 ⎫	2.3	0.847	1.9481
2 ⎬ 15%	2.645	0.718	1.899
3 ⎭	3.04125	0.609	1.852
4 ⎫	3.345925	0.516	1.726
5 ⎬ 10%	3.6805175	0.437	1.608
6 ⎭	4.0485	0.370	<u>1.4948</u>
			10.5

Share price end year 6 $\frac{4.0485\ (1.05)}{0.18 - 0.05} = \frac{4.250}{0.13} = 32.70$

Present value year 7   = Sh.32.70 x 0.370 = Sh.12.10

Value to be placed on ordinary share   = Sh(12.10 + 10.50) = <u>Sh.22.60</u>

(ii) No change with length of the indented holding period of 3 years. All that change is the proportions of the present values represented by dividend yields and capital gain

QUESTION FIVE

(a) Recall DY   = $\frac{DPS}{MPS}$ DPS = DY x MPS

Given MPS   =   Sh.45 and DY = 5% (0.05)
        DPS   =   Sh.45 x 0.05
                 =   Sh.2.25

(b) Since the company is raising new K determine the amount to raise from each source. The amount from debentures and Retained Earnings are specified.
The amount to raise from ordinary shares can be derived from the existing capital structure.

= $\frac{\text{Amount of ordinary share capital}}{\text{Total capital}}$ x amount to raise

Amount to raise =

Issue 100 debenture @ 5000	= 500,000	0.5M
KR 60% x 6m	= 3,600,000	3.6M
Issue ord. Shares $\frac{18}{28.9}$ x16.8M	= 10,463,668	10.464M
Issue preference is	= Bal.	<u>2.236M</u>
		<u>16.8M</u>

The issue price of ordinary shares is the current MPS net of floatation costs.

MPS	45.00
Fixed cost = 12%x45	<u>5.40</u>
Po-Fc = MPS net of fixed cost	39.60

Number of shares to be issued to raise Sh.10.464M from issue of ordinary shares at 39.60 MPS

No. of shares $= \dfrac{10.464}{39.60} = 0.264242M$ shares

$= 264,242$ shares

(c) **Marginal cost of capital**

For each of the 4 sources of capital compute the percentage MC. Ret Earnings are now a source of capital and hence the need to get the cost of Retained Earnings Kr but does not involve any floatation cost.

(i) **Marginal Cost of debenture (Kd)**

No maturity period is given for debenture to be issued thus they are perpetual.

$$Kd = \frac{Int.(1-T)}{Vd - Fc}$$

Int $=$ 10% coupon rate x 1,000 par value $= 100$
Vd $=$ Current MV $= 5000$
T $=$ Corporate tax rate $= 30\% = 0.3$
Fc $=$ 0 (not given)

$Kd = \dfrac{100(1-0.3)}{5000} = \dfrac{70}{5000} \times 100 = 1.4\%$

(ii) **M Cost of Retained Earnings (Kr)**

Retained Earnings should have been paid out as dividends. Therefore Kr is the percentage opportunity cost to the shareholders who should have received the dividends. It is therefore based on dividend paid just like Ke. However, no floatation costs are involved. No growth rate is given in the question thus use a zero growth dividend yield model where:

$$Kr = \frac{d_o}{P_o}$$

d_o $=$ DPS $=$ Sh.2.25 (a) above
P_o $=$ Current MPS $=$ Sh.45

$Kr = \dfrac{2.25}{45} x100 = 5\%$

(iii)   **Marginal Cost of Ordinary Share Capital (Ke)**

$$Ke = \frac{d_O}{P_O Fc} \times 100$$

d_o =   Sh.2.25
P_oF_c =   Sh.39.60

$$Ke = \frac{2.25}{39.60} \times 100 = \quad 5.68\%$$

(iv)   **Marginal Cost of Preference Share Capital (Kp)**

$$K_p = \frac{d_p}{P_O Fc} \times 100$$

d_p =   Preference DPS = 10% coupon rate x 20 par value =
P_o =   Sh.2 Current MPS = Sh.45
F_c =   0 (not given)

$$Kp = \frac{2.00}{25} \times 100 = 8.00\%$$

Weighted Marginal Cost of Capital (not based on MV)

Source	Amount to raise	% MC
Debenture	0.5M	1.40
Retained Earnings	3.6M	5.00
Ordinary share	10.464M	5.68
Preference share		8.00
	16.800M	

(d)   WMCC = $1.4\left(\dfrac{0.5}{16.8}\right) + 5\left(\dfrac{3.6}{16.8}\right) + 5.68\left(\dfrac{10.464}{16.8}\right) + 8\left(\dfrac{2.236}{16.8}\right)$

= $1.4(0.03) + 5(0.2) + 5.68(0.62) + 8(0.13)$
= $0.04 + 1.07 + 3.54 + 1.06$
=   5.71%

WMCC computed is the discounting rate =   5.71% = 6%
Annual cash flows   3M p.a
Economic life   10 years
Initial capital   16.8M

NPV   =   3 x PVAF6%10 – 16.8M
       =   3 x 7.36 – 16.8
       =   22.08 – 16.80 = 5.28 (positive NPV)
                       Accept if NPV is positive

(e) Depreciation as a source of finance to the firm in 2 ways:
  (i) It is tax allowable thus will yield a tax shield/saving to the firm since it reduces firms tax liability.
  (ii) Provision for depreciation is an appropriation from the company"s profits. This appropriation is transferred to a sinking fund which becomes a source of capital for replacing an existing asset. It is an internal source of finance.

QUESTION SIX

(a) An agent is an individual or party acting on behalf. In the context of public limited agency relationship may take two main forms.

  (i) Agency relationship between Shareholders and Management.

  The shareholders are the owners of the company through equity capital contribution. However, they may not be involved in management. The shareholders may not have the necessary skills or time required. As a result, they appoint other parties to run the company on their behalf (managers). The shareholders are the principles and the management constitute the agents.

  (ii) Agency relationship between the shareholders and creditors.

  The creditors are the contributors of debt capital They are not allowed to be involved in management of the company directly. After provision of funds the shareholders are expected to manage the funds along with the management on behalf of the creditors. The creditors constitute the principles and the shareholders the agents.

  The management may be involved in funds and irregularities. This will reduce the net earnings accruing to the shareholders.

  (iii) Other agency relationships is between shareholders and government auditors, employees and consumers.

(b) - Use of performance based reward/compensation -
Threats of firing
  - Contractual based employment
  - Introduction of share ownership plans for employees

  - Incurring agency costs or monitoring costs to avoid or minimize agency problem—eg auditfees.

  - Threat of takeover

(c) **Refer to solution of Q5 (d) December 2011.**

JUNE 2009

QUESTION ONE

(a)   **Debenture with floating interest rate:**
-     A debenture whose interest rate is variable and pegged to charges in interest rate on Treasury bill e.g. a debenture/bond may have a 3% premium above interest rate on Treasury bill such that:-

  ▪
        If interest rate on treasury bill is 7%, interest rate on the bond is 7% + 3% = 10%

  ▪
        If interest rate on Treasury bill rises to 8.5%, the interest rate on the bond rises to 8.5% + 3% = 11.5%.

-     Such a bond is advantageous when market interest rates are volatile.

-     If market interest rate falls the borrower pays lower interest charges and when it rises, the lender receives more interest income.

-     Since the coupon rate is matched to market interest rate, the intrinsic value of the bond is usually stable and easy to determine.

(b)   **Zero coupon bonds**
-     The bonds do not pay periodic interest hence the words "zero coupon" bond.
        They are issued at a discount and mature at par.

-     Therefore, interest is accumulated and accounted for in the redemption value of the bond.

-     The lender is not locked into low fixed interest rate while the borrower does not have fixed financial obligations of paying fixed interest charges.

-     The liquidity of the borrower is not affected until the redemption date.

(a)   **Drawbacks of dividend growth model**
-     It is only applicable if the cost of equity, Ke is greater than growth rate, in dividends i.e.

$$P_o = \frac{d_o(1 + g)}{K_e - g}$$

        If g>ke, then the model would collapse.

-     It is based on historical information where "do" is the past dividend per share, and „g" is based on historical stream of dividends.

-     It assumes a constant stream of dividends in future, growth rate and cost of equity all of which are not achievable in real world.

(ii)   Compute the expected DPS at end of each period and discount at 10% rate.
        Expected DPS = $d_o (1 + g)^n$

End of year	Expected DPS	$PVIF_{10\%,n}$	P.V
1	$2.50(1.2)^1 = 3.00$	0.909	2.73
2	$2.50(1.2)^2 = 3.60$	0.826	2.97
3	$2.50(1.2)^3 = 4.32$	0.751	3.24
4	$2.50(1.2)^4 = 5.18$	0.683	3.54
5	$2.50(1.2)^5 = 6.22$	0.621	3.86
6-∞	$\dfrac{d_o(1 + g)}{K_e - g}$		

$$= \quad \frac{16.22(1.07)}{0.10 - 0.07} \quad = \quad 221.85 \quad\quad 0.621 \quad\quad \underline{137.77}$$

$$= \quad \text{Intrinsic value} \quad = \quad \text{Total present value} \quad = \quad \underline{154.11}$$

QUESTION TWO

(a)   The Baumol Model of cash management is the EOQ model for stock management.

According to EOQ model, the optimal stock to hold (EOQ) = $\sqrt{\dfrac{2DC_0}{Ch}}$

Where: D   = annual demand/requirements   =   21,000 litres
         Co   = ordering cost/order   =   Sh.1,400
         Ch   = holding/carrying cash p.a.   =   Sh.8

$$EOQ = \sqrt{\frac{2 \times 21,000 \times 1,400}{8}}$$

=   27,110.9 litres

Holdings cost   =   ½ x Q x Ch
                 =   ½ x 27,110.9 x 8
                 =   108,443.6

Ordering cost   = $\dfrac{D}{Q}$Co

                 = $\dfrac{2,100,000}{27,110.9}x1,400$

                 =   108,443.4

If the assumptions of EOQ hold, then holding cost = ordering cost. These assumptions are:

(i)   Annual stock requirement/demand is certain/known
(ii)   Ordering cost/order is certain
(iii) Holding cost/unit p.a is certain
(iv)   There are no quantity discounts on purchase of goods/stock.
(v)   Lead time is zero i.e goods are supplied immediately they are ordered such that no time elapses between placing an order and receipt of goods.
(vi)   There is no cost associated with being out of stock.

(b)   Existing Policy   New Policy
        Debtors   60m   108m
        Av. Debtors period   40 days   60 days

        Cr. Sales p.a. 60x $\dfrac{360}{40}$ 540m   increase by 20% 648m

Since a GP margin of 30% is given the profitability associated with the change in credit policy will be analysed from increamental GP.

If % GP margin =$\frac{\text{Gross Profit}}{\text{Sales}}$ x 100   then Gross profit= $\frac{\text{% GP margin}}{\text{Sales}}$

The cost of financing debtors = 18% rate of

	Existing policy		New policy	Increamental
GP = 30% x 540	162m	30% x 648	194.4	32.40 (benefit)
Cost of financing debtors = %Cost of capital x debtors	10.8m	18% x 108	19.44	(8.64) (cost)
18% x 60				
Net increamental benefit (cost)				23.76

Note: The amount of credit sales determined represents 60% of total sales. A … incredit policy is based on credit sales only.

(b)   The firm has a 5 day working week i.e Monday – Friday. Therefore number of days cash collected per year = 5 days/week x 52 weeks p.a = 260 days.
If the cash collection of 26m is evenly spread on daily basis then the firm expects to collect:

$\frac{26m}{260\text{days}}$= 0.1m

If the cash collected is banked everyday it will generate interest income at 19% interest rate p.a. based on 365 days.
Therefore interest rate per day =

$$\frac{19\%}{365}=0.0521\%$$

If the collection manager"s suggestion is implemented, it means the firm will not earn interest on the daily collections since they will not be banked.
The forgone interest will be based on:

(i)   **Monday"s collections**   - 4 days (Monday, Tuesday,. Wednesday, Thursday)
(ii)   **Tuesday"s collections**   -   3 days (Tuesday, Wednesday, Thursday)
(iii)   **Wednesday"s collections**   -   2 days (Wednesday, Thursday)
(iv)   **Thursday"s collections**   -   1 day (Thursday)

Assumptions:

Everyday the collections are banked, they earn interest on the day of banking. The summary of foregone interest income per week if the new suggestion is adopted is as follows:

Mondays collections	-	0.1m x 0.0521% x 4 days =	208.4
Tuesdays collections	-	0.1m x 0.0521% x 3 days =	156.3
Wednesday"s collections	-	0.1m x 0.0521% x 2 days =	104.2
Thursday"s collections	-	0.1m x 0.0521% x 1 day =	52.1
Total interest charges foregone per week			521

Given 52 weeks p.a. annual increamental interest charges = 521 x 52 = 27,092.

QUESTION THREE

(a)

Ratio	Formular	1998	1999	2000
Acid test/ Quick ratio	$\dfrac{CA - Stock}{CL}$	$\dfrac{30 + 200}{230 + 200 + 100}$ = 0.43	$\dfrac{20 + 260}{300 + 210 + 100}$ = 0.46	$\dfrac{5 + 290}{380 + 225 + 140}$ = 0.396
Av. Debtors collection period	$\dfrac{Av. Debtors \times 365}{CV\ sales\ p.a.}$	$\dfrac{200 \times 365}{4000}$ = 18.25	$\dfrac{260 \times 365}{4300}$ = 22.07	$\dfrac{290 \times 365}{3800}$ = 27.86
Inventory Turnover	$\dfrac{Cost\ of\ Sales}{Av.\ Closing\ stock}$	$\dfrac{3200}{400}$ = 8	$\dfrac{3600}{480}$ = 7.5	$\dfrac{3300}{600}$ 5.5
Debt/Equity	$\dfrac{Fixed\ charge\ capital}{Equity}$	$\dfrac{350}{100 + 500}$ = 0.5	$\dfrac{300}{100 + 550}$ = 0.46	$\dfrac{300}{100 + 550}$ = 0.46
Ratio NP margin	$\dfrac{NP}{Sales} \times 100$	$\dfrac{300}{4000} \times 100$ = 7.5%	$\dfrac{200}{4300} \times 100$ = 4.7%	$\dfrac{100}{3800} \times 100$ = 2.63%
ROI = ROTA	$\dfrac{NP}{Total\ Assets}$	$\dfrac{300 \times 100}{1430}$ = 20.98%	$\dfrac{200 \times 100}{1560}$ = 12.82%	$\dfrac{100 \times 100}{1695}$ = 5.90%

Note:

(i) All sales are on credit since they are made on terms of 2/10 net 30 i.e pay within 10 days and get a 2% discount or take 30 days to pay without getting any discount.
(ii) Debtors = Account Receivable while ordinary share capital = common stock.
(iii) Current Asset - Stock = Cash + Accounts receivable

(b) When commenting on ratios, always indicate the following:
   (i) Identify the ratios for a given category e.g when commenting on deficiency, identify efficiency or turnover ratios.
   (ii) State the observation made e.g ratios are declining or increasing in case of trend or time series analysis.
   (iii) State the reasons for the observation.
   (iv) State the implications of the observation.

Comment on liquidity position:
- This is shown by acid test/quick ratio
- The ratio improved slightly in 1999 but declined in year 2000.
- The ratio is lower than the acceptable level of 1.0

      This is due to poor working capital management policy as indicated by
      increasing current liabilities while cash is consistently declining.

- The firms ability to meet its set financial obligations is poor due to a very low
  quick ratio.

Comment on profitability position:
- This is shown by net profit margin and return on total assets.
- Both ratios are declining over time
- This is particularly due to decline in net profits thus decline in the net profit
  margin and increase in total accounts as net profit decline thus reduction in
  ROTA.
- The firm"s ability to control its cost of sales and other operating expenses
  is declining over time e.g Sales – Net profit will indicate the total costs.
  These costs as a percentage of sales are as follows:

1998	$\frac{Sales–Net\ profit}{Sales}$ x 100	=	$\frac{4,000–300}{4,000}$ x 100
			= 92.5%
1999	$\frac{4,300–100}{3,800}$ x 100	=	95.3%
2000	$\frac{3,800–100}{3,800}$ x 100	=	97.5%

Comment on gearing position:
- This is shown by debt/equity ratio
- This was 50% in 1998 and declined to 46.2% in 1999 and 2000
- It has been fairly constant
- This is due to the constant long term debt and ordinary share capital
- The decline in 1999 and 2000 was due to increase in retained earnings

Generally the firm has financed most of its assets with either short term or long term
debt i.e current liabilities + long term debt

Example: the total liabilities (long term debt + Current liabilities) as a percentage
oftotal assets are as follows:

1998	$\frac{230+ 200 + 100 + 300}{1,430}$ x 100	=	58.04%
1999	$\frac{300 + 210 + 100 + 300}{1,560}$ x 100	=	58.33%
2000	$\frac{380 + 225 + 140 + 300}{1,560}$ x 100	=	61.65%

1,695

QUESTION FOUR

(a) At initial stages of debt capital the WACC will be declining upto a point where the WACC will be minimal. This is because.
(i) Debt capital provides tax shield to the firm and after tax cost of debt is low.
(ii) The cost of debt is naturally low because it is contractually fixed and certain.

Beyond the optimal gearing level, WACC will start increasing as cost of debt increases due to high financial risk.

(b) (i)Cost of equity

$$Ke = \frac{do(1 + g)}{Po} + g$$

do(1+g) = Sh2.40

Po = Sh60

g = 10%

Ke = $\frac{2.40}{60} + 0.10 = 0.14 = 14\%$

Cost of debt capital (Kd)

Since the debenture has 100years maturity period then Kd = yield to maturity = redemption.

$$Kd = \frac{Int(1 - T) + (m - vd)\dfrac{1}{n}}{(m + vd)\,{}^1\!\diagup_2}$$

m = Maturity/per value = sh 150
vd = market value = Sh. 100
n = number of years to maturity =100
Int = Interest = 6% x Sh. 150 = Sh.9 p.a
T = Tax rate = 30%

$$Kd = \frac{9(1 - 0.3) + (150 - 100)\dfrac{1}{100}}{(150 + 100)\,{}^1\!\diagup_2} = \frac{6.8}{125} \times 100 \quad = \quad 5.441\%$$

Cost of preference share capital Kp

Kp = Coupon rate = 10% since MPS = par value

(ii)   WACC or overall cost of capital Ko

M.V of equity = 600,000 shares x sh 60 MPS   36
M.V of debt = 40,000 debentures x Sh 100   4

M.V of preference shares = 200,000 shares x Sh 20 $\frac{4}{44}$

Ke = 14%   Kd = 5.44%   Kp = 10%

Ko = WACC   = $14\%\left[\frac{36}{44}\right] + 5.44\%\left[\frac{4}{44}\right] + 10\%\left[\frac{4}{44}\right]$ =   12.86%

The Sh 10M will be raised as follows:

Sh 6M from debt
Sh 4M from shares

Since there are no floatation costs involved then:

Marginal cost of debt = 5.4%
Marginal cost of ordinary share capital = 14%

Therefore marginal cost of capital = $14\%\left[\frac{4}{10}\right] + 5.55\%\left[\frac{6}{10}\right]$ =   8.86%

QUESTION FIVE

(a)   The tax incentives to encourage investments in capital markets are:
-    Capital gains are tax exempt
-    New quoted firm with effect from 1st January 2003 will have a lower corporate tax rate of 25% p.a for the first 5 years of quotation.
-    Venture capital firms enjoy a ten year tax holiday
-    The withholding tax on dividends is only 5% which is final tax
-    Floatation costs of newly quoted firms and tax allowable expenses
-    The transfer of securities is exempted form stamp duty and VAT
-    Income of collective investment scheme is tax free.

(b)   The benefits that enjoyed by investors due to existence of organized security exchanges e.g. Nairobi Stock Market are:
-    The firms are able to issue new shares and raise capital easily
-    The exchange is a vehicle of mobilizing savings in the economy
-    Since investors can buy new shares, this enable them to diversify their investments and reduce risk
-    It is a means through which foreign direct investment (FOI) can flow into the economy
-    Investors are able to know the price of their securities as determined by demand and supply forces in the stock exchange.

- Since investors cannot buy or sell shares themselves, they interact with stockbrokers and get investment advice

(c)   The benefits of central depository system (CDS) to the:

(i)   Government:
- There will be greater mobilization of savings in the economy
- It is a convenient way for FOI
- It reduces the cost of capital since transaction costs are significantly reduced.

(ii)   Capital Market Authority and NSE
- Increased share turnover
- Increased stock market liquidity
- Improved transparency of stock market
- Better service delivery

(iii)   Investors
- Reduced share transfer costs
- Faster and more efficient settlement of deals
- Investments become more liquid
- Reduced share certificate is required (dematerialisation)

DECEMBER 2009

QUESTION ONE

(a)   **Advantages of being listed**
- New funds may be easily obtained from the stock exchange
- Easy pricing of shares
- A better credit standing obtained
- Easy share per transfer (ownership)
- Buying other companies is easier
- Wide ownership of the firm
- Reduction in perceived risk by shareholders
- Greater prominence and status given to quoted companies may create goodwill for the company.

Disadvantages
- Cost of floating
- Stringent stock exchange regulation
- Agency problem due to divorce of management and ownership
- Dilution of control from wider holding of shares
- Increased chances of forced take over.
- Extra administrative burdens on management
- Disclosure requirements

(b)   **Floor brokers – act on behalf of individuals**
(i)   Client who are willing to buy or sell some of their shares or debentures through floor/stock brokers:
- Stock brokers acting on behalf of client will deal with one of the market makers to buy or sell the shares.
- Market makers may act as shareholders too, dealing directly with individual investors.
- Stock brokers earn a commission for their service payable by the client.

(ii)   Market makers are dealers in the shares of the selected companies whose responsibility is to "make a market" in the shares of those companies. It is noteworthy that a market maker:
- Must be a member of the stock exchange
- Must announce which company"s shares they are prepared to market
- Must undertake to make a two way prices in the securities for which they are registered as market makers under any trading conditions.
- Must decide the share price
- Brings "new" companies to the market.
- Earns a profit being the difference of selling and buying price.

(iii) •Underwriter is an investment banker who performs the insurance function of bearing the risk of adverse price fluctuating during the period in which a new issue of security is being distributed.
- The underwriter underwrites the risk of under-subscription of a   company"s shares during a primary issue.

- He ensures that the company gets the targeted funds sometimes having to take up the shortfall in demand.

(b)   (i) Bull and bear markets

A bull market is a market characterized by rising prices, encouraging people to buy now in the hope of making a profit when they sell later after prices have climbed up.

A bear market is characterized by falling prices encouraging bears to sell now in order to avoid future losses when prices would have fallen.

(ii)   Bid ask spread
Is the difference between the offer price and the buying price of a share.

(iii)   Short selling
-       Is the act of selling a share which one does not already possess.
-       The dealer could "borrow" the shares, sell them when prices are high and in anticipation of decline in prices, the shares will be bought back at lower prices and refunded to the "lender"

QUESTION TWO

(a)   (i) Weaknesses of Baumol Model in management of cash.

Baumol Model is the EOQ approach in cash management according to this model, the optimal cash balance owned.

$$C = \sqrt{\frac{2Tb}{i}}$$

Where: T = annual cash requirement
b = Transaction cost
i = Interest rate on short term marketable securities.

Two costs are identified withholding the optimal cash balance:

(i)   Opportunity cost/foregone interest income = $\frac{1}{2}ci$

(ii)   Conversion/transfer cost = $\frac{T}{C}b$

The weaknesses of the Baumol Model are inherent in its exemptions which are:

(i)   Annual cash requirement is known and constant
(ii)   Conversion cost is certain throughout the year
(iii)   Interest rate on short term marketable securities
(iv)   A firm has a steady cash inflows and outflows which occurs at regular intervals.

       (v)   A firm does not incur any cost due to shortage of cash e.g lost investment opportunities.

(ii)   The phrase indicating that cash balances will be run down at an even rare throughout the year means that on average the firm will earn interest of 9% on the amount of loan borrowed. The firm pays interest at 18%, it will generate interest income at 9% interest rate, when the borrowed fund is placed in a notice deposit …

Alternative II

Interest charges payable =	18% x 150m	(27.00m)
Interest income on deposit =	9% x 650m	13.50m
Net cost/interest charges		13.50m
Add Flat arrangement fees (50,000)		0.50m
Net cost of the option		(13.55m)

Alternative I

The Sh.150m will be raised from sale of short term marketable securities. Therefore there will be conversion costs every time the securities are sold to realize cash. This can be determined using Baumol Model. Where:

Annual cash requirement	=	150m	T
Transaction/conversion fee	=	15,000	b
Interest rate on short term securities	=	12%	I

Optimal cash balance $C = \sqrt{\dfrac{2Tb}{i}}$

$$= \sqrt{\dfrac{2 \times 15,000,000}{0.12} x15,000}$$

$$= 6,123,724$$

Recall conversion cost $= \sqrt{\dfrac{T}{C}} \, xb$

$$= \dfrac{150\,m}{6,123\,,724} x15,000$$

$$= 367,423 \text{ (Cost)}$$

Since the firm is depositing cash at hand i.e Sh.6,123,724 in a notice deposit to earn interest at 7% p.a., then there is no opportunity cost. The firm will generate interest income on the average optimal cash balance.

Recall: Opportunity Cost	=	½Ci
Therefore interest income	=	½Cxi
	=	½x6,123,724 x 7% =214,330 (income)

The firm requires 150m p.a.

However, the cash inflow and outflow occurs at a steady rate. Therefore the average cash outflow = ½ x 150m = 75m
The interest rate foregone on short term marketable securities at 12%:

12% x 75	=	(9,000,000) – a cost
Add conversion cost		(367,423)
Interest income on short term deposit		214,330
Net cost		(9,153,093)

The Alternative 1 is better.

(b)   (i)According to Miller Orr Model of cash management:

$$\text{Optional cash balance } 3Z = \sqrt[3]{\frac{36\sigma}{4i}} + L$$

Where: b   = transfer (conversion cost)   =   120

i   = Interest rate/day on short term securities = $\dfrac{9.465\%\text{p.a}}{365}$ = 0.00026

σ^2 = Variance of daily cash flows = (standard deviation)^2
       = 22.750^2 = 517,562,500

L   = Lower/minimum cash balance = 87,500

$$Z \quad = \sqrt[3]{\frac{3\text{x}120\text{x}517,562,500}{4\text{x}0.00026}} + 87,500$$

       =   56,373.8 + 87,500
       =   143,874

(ii)   Lower cash limit =   87,500
       Upper cash limit =   3Z – 2L
               =   3(143,874) – 2(87,500)
               =   256,622

The decision criteria for Baumol Model could be illustrated graphically as follows:
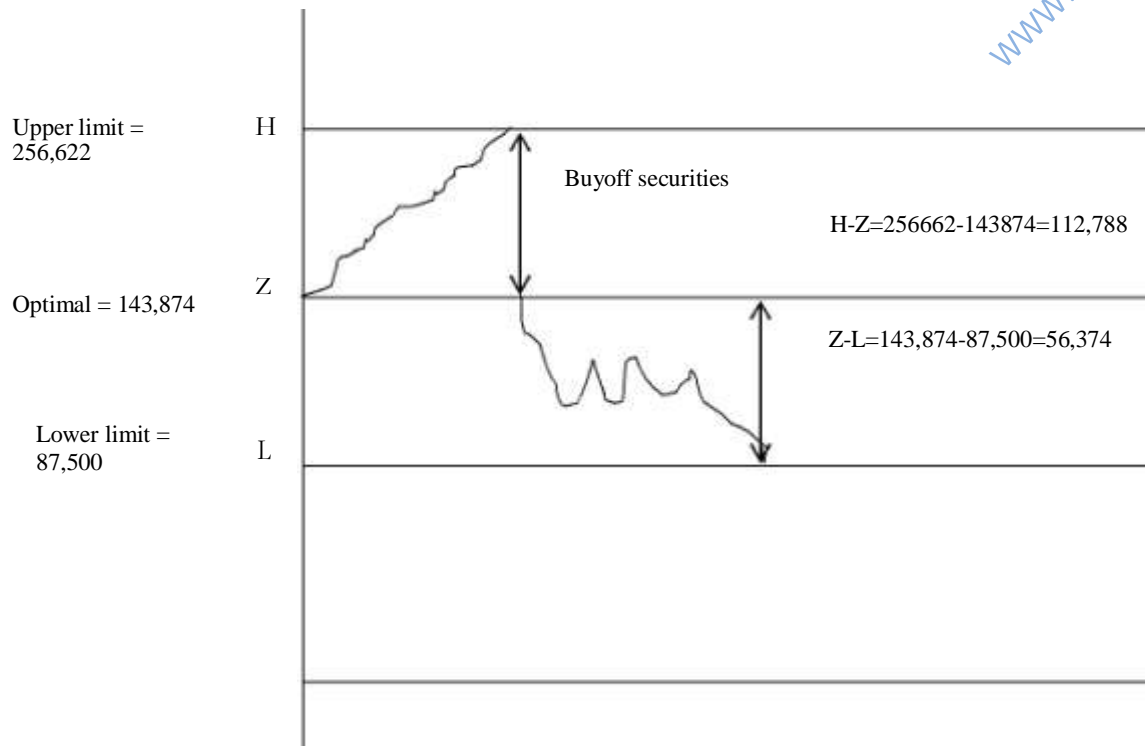
The decision criteria for this model is:

(i)   If the cash balance moves from Z – H, the firm has excess cash = H – Z which should be invested by buying short term securities.

(ii)   The firm should sell short term marketable securities to realize cash if the cash balance declines to lower limit L. The amount realized = Z - L

(iii)   The firm should maintain a cash balance range (spread = H – L) i.e 255,662 –

87,500 The average cash balance as per the model $= \dfrac{4Z^- L}{3}$

$$= \quad \frac{4(143,874) - 87,500}{3} \quad = \quad \frac{487,996}{3}$$

$$= \quad 162,665$$

QUESTION THREE

(a)   Determine the NPV of replacement decision. Carry out increamental analysis as follows:

-      Compute the increamental initial capital outlay:

		Sh."000"
Cost of new machine (price)		87,000
Freight & installation		13,000
Depreciable cost		100,000
Less: MV/disposal value of existing machine		
1,000,000 x 3	Note 1	(3,000)
Add: Increamental N.W capital		-
Less: Savings in overhaul cost (MP terms)		(5,000)
Increamental initial capital		92,000

Note: If the new machine is acquired, the overhaul cost will not be incurredsince existing machines will be disposed off. In the absence of tax rate, the firm will not generate any tax shield or will not pay additional tax from the disposal of the existing asset.

Recall: Tax shield = Loss on disposal of asset x tax rate

Tax payable – gain on disposal of A x tax rate (out flow)

-      Compute the increamental depreciation p.a.

Depreciation p.a. of new machine Note 4	9,550
Depreciation p.a. of old machine Note 2 (75 x 3)	(225)
	9,325

-      Compute increamental salvage value:

Scrap value/salvage of new machine Note 3	4,500
Less salvage of existing machine Note 1 (600 x 3)	(1,800)
	2,700

-      Compute increamental operating cash flows p.a.= Savings associated with using the new machine compared to the annual operating costs of the existing machine.

	Operating costs New machines	Operating cost 3 existing machines	Savings
Raw sugar cane	162,000	60,000 x 3 = 180,000	18,000
Labour	3,900	1350 x 3 = 4,050	150
Variable expenses	2,275	925 x 3 = 2,775	500
Fixed expenses			
Factory overhead	7,800	2,700 x 3 = 8,100	300
Maintenance	4,500	2,000 x 3 = 6,000	1,500

Increamental savings = earnings before depreciation & tax	20,450
Less increamental depreciation p.a. (non cash item)	9,325
Increamental earnings before tax	11,125
Tax	-
Increamental earnings after tax	11,125
Add back increamental depreciation p.a.	9,325
Annual operating cash flows	20,450

Note: If tax is ignored then annual operating cash flows = EBDT. The newmachine has 10 years of economic life which the existing machines still have 10 years to go (they were bought 5 years ago and are being depreciated over a 15 year economic life. Therefore discount the cash flows and salvage value at 10% cost of capital and 20% as required using 10 year period.

Item	Amount	Timing	PV10%,n	PV	PVF20%,n	PV
Inc. of cash flows	20,450	1 – 10 p.a	6.145	125,665	4.192	85,726
Inc. salvage value	2,700	10	0.386	1,042	0.162	437
Total Increamental PV				126,707		86,163
Less Inc. initial capital	92,000	0	1.000	(92,000)	1.000	(92,000)
NPV				34,707		-(5,837)

(ii)   Estimate IRR

Recall: IRR   = $L + \left(\dfrac{A}{A - B} \right) (H - L)$

Where: L   =   Lower discounting rate yielding positive NPV (10%)
         H   =   Higher discounting rate yielding negative NPV (20%)
         A   =Positive NPV = 34,707
         B   =Negative NPV = 5,837

IRR= $10\% + \left(\dfrac{34,707}{34,707 - 5,837} \right) 20\% - 10\%$

= $10\% + \dfrac{34,707}{40,544} (10\%)$ =   18.55%

   (iii)   Advise Management:

            IRR=   18.56% Accept if IRR > Cost of capital

            Cost of K   =   10%

            According to the financial viability test the profit payback period should not
            exceed 5 years. In presence of annuity cash flows, payback period:

            =   Initial capital   =   92,000   =   4.5 years
                    Annual cash flows   20,450

(c)   Qualitative considerations/factors that could influence the decision:
       -    availability of spare parts for the new machine
       -    changes in technology when the new machine is acquired
       -    possibility of stoppage of production if the new machine breaks down compared to
            the existing 3 machines where if 1 breaks down, production could continue with the
            other 2
       -    The effect of replacement declines on the morale of the … e.g the 4 new
            machine only one operator is required compared to 3 operators with the existing 3
            machines, 2 operators will be laid off.
       -    The risk increased with the replacement decision e.g cash flows are likely to
            fluctuate over time and not constant as analysed above.

QUESTION FOUR

(a)

Ratios	Industry Average	1999	2000	2001
Current ratio CA:CI	2.7	3.9	2.1	2.0
Quick ratio (CA Stock) CI	1.0	1.9	0.9	0.7
Inventory Turnover (cost stock)	7	6.7	4.5	2.8
Average collection period	3.2	35 days	37.4 days	55.1 days
IA turnover (Sales FA)	13.0	11.2	10.5	12.36
Total Assets Turnover	2.6	3.1	2.5	1.9
Net income to Networth	18%	21.3%	14.4%	82%
Profit margins on sales	3.5%	46%	2.9%	17%
P/E ratio	6	5.9	4.6	4.1
Debt equity ratio	50%	38.8%	34.5%	44.4%

(b)   Liquidity
       •   Is indicated by quick ratio and current ratio
       •   Trend wise the company liquidity deteriorated
       •   Compared to industry ratios are below the norm. Company"s liquidity is
            below industry norm.

       Profitability is indicated by net income to networth and profit margins on sales
       •   Trend wise it is clear the company"s profitability has declined over the years
       •   Cross-section wise the company is performing below the industry norm.
       •   Turnover (activity) is indicated by the turnover ratios and average collection period

       Trend wise

The inventory turnover has declined alarmingly. The average collection period has also alarmingly increased. The FA turnover has been stable while total asset turnover has declined. The company is deteriorating in its use of assets.

Crosssectionwise
The company ratios are below average

Conclusion
The company is indeed facing due financial times. All indications are that a restructuring is necessary.

QUESTION FIVE

(a) In deciding whether to go for short term rather than long term finance the following would be taken into account.

(i) **The purpose for which the money is required (matching)**
In general its is preferable that the life of the project under review should not exceed the period for which the money is borrowed. It may be inconvenient for example if an investment if fixed asset having a working life of 20 years was financed by a five year loan.

(ii) **Relative cost of different forms of finance**
This is a question that has to be considered in each case. As a general point, if interest rates generally are high but are expected to fall longer term finance is preferable.

(iii) **Flexibility** –Short term loans are more flexible since a firm can react to changes ininterest rates unlike long term loans.

(iv) **Repayment pattern** –a short term loan may be payable any time cash is availableunlike long term debt.

(v) **Availability of collateral** –a security is required for long term debt unlike shortterm debt.

(vi) **The liquidity of the business**
If the liquid ratio is low, it may not be possible to obtain further finance without causing concern to creditors.

(vii) **Availability** –the question of what is available will influence whether the borrowshort or long term debt.

(b) **Advantages of convertible securities:**
-Provide lower cost of debt

- No immediate dilution of ownership and EPS -
Provides equity finance on conversion

-Interest charges are tax allowable hence tax shield.

QUESTION SIX

(a) (i)Borrowing additional debt capital which take priority charge in case of liquidation.

    (ii)   Disposal of assets used as collateral for loans

    (iii)   Payment of high dividends which reduce the cash for investment.

    (iv)   Asset substitution
    If a firm sells bonds for the stated purposes of engaging in low variance projects, the value of the shareholders equity rises and the value of bondholders claim is reduced by substituting projects which increase the time variance rate.

    (v)   Under investment
    A firm with outstanding bonds can have incentive to reject projects which have a positive NPV if the benefit form accepting the project accrues to the bondholders.

    Inadequate disclosure
    Sale of assets used to secure creditors

(b) Restructure bond covenants include the following:

    (i)   Restriction on investments, flats profits movement in such risky ventures. The aim to discourage assets substitution.

    (ii)   Restriction to disposition of assets require that the firm should not dispose of substantial part of its properties and assets.

    (iii)   Securing debts give bondholders title to pledge bonds until assets are paid.

    (iv)   Restrictions on mergers. Mergers may affect the value of claims.

    (v)   Covenants restricting payments of dividends a limit in distribution is placed.

    (vi)   Covenants restricting subsequent financing restrict issue of additional debt

    (vii)   Covenants modifying pattern of payment to bondholder
- Sinking fund
- Convertibility provisions
- Collability provisions

    (viii)   Bonding requirement
- Purchase of insurance
- Certificates of compliance
- Specification of accounting technique.

MAY 2010

QUESTION ONE

(a)   Book value – historical or balance sheet value

Book value of an asset is determined using the net asset basis/liquidating method where, the value of a share i.e

Value of a share   = $\dfrac{\text{Net worth (equity)}}{\text{No. of ordinary shares}}$ = $\dfrac{\text{Total Assets – Total Liabilities}}{\text{No. of ordinary shares}}$

The main weakness of the book value valuation is that the data used is historical.

Replacement Value:
Its based on the cost of replacing the existing assets. However, only the productive fixed assets can be replaced at ago since current assets are circulating working capital.

Replacement value   = $\dfrac{\text{Replacement Cost of Fixed assets}}{\text{No. of ordinary shares}}$

The problems with this value are:
(i)   It is based on one portion of total assets.
(ii)   Replacement value is subjectively determined.

Substitution value
This involves determining the value of a security by looking at the value of a similar/substitute value of a share of a competitor company in the same industry.

The problems with this value are:-
(i)   Firms do not have similar productive assets for the purpose of using one security as a substitute of the other.
(ii)   There are no two firms which are identical or similar in their operating characteristics e.g firms in the same industry will have different accounting policies and management styles.

Intrinsic Value
It"s the value determined using historical information and financial models e.g the dividend yield model.

The problems with this value are:
(i)   It is based on historical data.
(ii)   The models may not be accurate in fact different models produce different intrinsic values.

(b)   (i)   Dividend = $\dfrac{8}{160}$ x 100 = 5% $\dfrac{9}{270}$ x 100 = 5%

P/E ratio = $\dfrac{160}{8}$ = 20 times $\dfrac{270}{18}$ = 15 times

Dividend cover = $\dfrac{8}{8}$ = 1 time $\dfrac{18}{18}$ = 2 times

EPS	8	9
DPS		

- KVL has higher dividend because of the high DPS and lower MPS.
- For P/E ratio an investor will take 20 years to recover his investment from KVL as compared to 15 years in KHL. KHL is therefore preferable, because it offers a shorter payback period.
- For dividend cover KHL is better since dividends are more secure since they can be paid twice from earnings attributable to ordinary shareholders.

    KVL has a percentage dividend payout ratio (EPS = DPS = Sh.8) and thus a lower dividend cover.

(ii)   Since we are using dividend growth model specifically, then value of a share $P_0 =$

$$P_0 = \frac{d_0(1+g)}{k_e - g}$$

d_0 = DPS for the year just ended = 5 years

k_e = Cost of equity/estimated return on earnings =

20% g = constant growth rate in dividends.

This g can be established from the past stream of DPS given using compounding method when $d_0(1+g)^n = d_n$

$$g = \sqrt[n]{\frac{d_n}{d_s}} - 1$$

d_n = DPS at end of last year of growth = 5.5
d_s = DPS at beginning of first year of growth =
3.0 n = No. of years of growth = 4

$$g = \sqrt[4]{\frac{5.5}{3.0}} - 1 = 0.164$$

$$P_0 = \frac{d_0(1+g)}{k_e - g} = \frac{5.5(1.164)}{0.2 - 0.164} = 177.83$$

With 1,000 shares MV = 177.83 x 1,000
                     = Sh.177,830

QUESTION TWO

(a)   (i)   EOQ   = $\sqrt{\dfrac{2 \times \text{demand} \times \text{ordering cost}}{\text{Carrying cost} \times \text{purchase cost}}}$

Before re-organization   = $\sqrt{\dfrac{2 \times 400,000 \times 10,000}{0.2 \times 25}}$

EOQ   =   40,000 units

After re-organization   = $\sqrt{\dfrac{2 \times 400,000 \times 2,500}{0.2 \times 25}}$

EOQ   =   20,000 units

(ii)   Implementation of the new system will affect both the total ordering costs per annum and stockholding cost under the existing system these are as follows:

$\dfrac{400,000}{40,000}$ =   10

Ordering cost   =   Number of ordes per year
Cost per order = Sh 10,000 per order
Costs per annum = 10,000 x 10 = 100,000

Carrying cost   =   Average stock is 20,000
Cost is 20,000 x 25 x 20% = 100,000
Total costs = 100,000 + 100,000 = 200,000

Under the proposed scheme the costs would become: -

Ordering costs: Number   of   = $\dfrac{400,000}{20,000}$ =   20
orders

Cost per order is Sh 2,500
= 20 x 2,500   =   Sh 50,000
Therefore total ordering cost =

Carrying costs -   Average stock is 10,000 units. The total carrying cost
-    is:
10,000 x 25 x 20% = Sh 50,000

Total costs   =   Sh 100,000

The annual tax saving is therefore (200,000 – 100,000) = 100,000
This will give rise to an after tax cash flow of [100,000 x (1 – 0,325)] = Sh 67,500

Discounting the cash flows at
18%   = 94,50
Year 0[140,000 x (1 – 0.325)] x   = 275,265
1.0   = 180,765
Year 1 – 8 (67,500 x 4.078)
NPV or re-organisation

(b)   JIT represents a complete management philosophy and is more than just a collection of techniques. It aims to manufacture to order for each customer and to eliminate idle resources in all areas of the company. It is a technique which enables management to order and buy what it requires at that particular point in time.

In terms of purchasing, a JIT system aims to ensure that components are delivered just immediately prior to the need to use then in the production process. It therefore requires a close relationship to be built up between customer and supplier, the later being required to deliver quality assured components to match production schedules. Suppliers in turn should benefit it from fair long-term sales as the purchaser reduces its number of sources. This should allow the supplier to achieve scale economies and improve production planning. The customer should achieve a reduction in ordering costs and n stock levels and associated carrying costs.

QUESTION THREE

(a)   Item directly varying with sales   =   %of 2001 sales

Net fixed assets   = $\frac{124,800}{240,000}$ x 100   =   52%

Stock   = $\frac{38400}{240,000}$ x 100   =   16%

Debtors   = $\frac{28,800}{240,000}$ x 100   =   12%

Cash   = $\frac{7,200}{240,000}$ x 100   =   3%
                                                                                            83%

Trade Creditor   = $\frac{36,000}{24,000}$ x 100   =   15%

Accrued expenses   = $\frac{24,000}{240,000}$ x 100   =   10%
                                                                                            25%

Year 2002 sales   =   240,000,000 x 1.15   =   276,000,000
Year 2003 sales   =   27,600,000 x 1.20   =   331,200,000

Total increase in sales   =   331,200,000 – 240,000,000   =   (22,800,000)

**FINANCIAL
MANAGEMENT**

Increase in total assets	=	83% x 91,200,000	=	75,696,000
Less: increase in current liabilities =		25% x 91,200,000	=	(22,800,000)

Less: retained earnings:			
Year 2002 Net Profit = 8% x 276,000,000 =		22,080,000	
Less: 80% dividends	=	(17,664,800)	(4,416,000)

Retained earnings:

Year 2003 Net Profit = 8% x 331,200,000	=	26,496,000	
Less: 80% dividends	=	(21,196,800)	

Retained earnings:	(5,299,200)
External; financial needs (commercial paper)	43,180,000

(b)   (i)   **Pro-forma Balance Sheet as at 31 December 2003**

Net fixed assets	52% x 331,200,000	172,224,000
Stock	16% x 331,200,000	52,992,000
Debtors	12% x 331,200,000	39,744,000
Cash	3% x 331,200,000	9,936,000
		274,896,000
Financed by:		
Ordinary share capital		84,000,000
Retained earnings 35,200,000 + 4,416,000, + 5,299,200		44,915,200
12% long term debt		20,000,000
Trade Creditors 15% x 331200,000		49,680,000
Accrued expenses 10% x 331,200,000		33,120,000
Commercial paper		43,180,800
		274,896,000

(ii)   No change in value of money (inflation) during the forecasting period.

QUESTION FOUR

(a)   Cost of equity (ke)   = $\dfrac{do\,(1 + g)}{Po} + g$

$$= \frac{6.50}{50} + 0.07$$

$$= \underline{20\%}$$

(b) **Project X**

Year	Cash flows	PVIF$_{20\%}$, n	P.V
1	2,000,000	0.833	1,666,000
2	2,200,000	0.694	1,526,800
3	2,080,000	0.579	1,204,320
4	2,240,000	0.482	1,079,680
5	2,760,000	0.402	1,109,520
6	3,200,000	0.335	1,072,000
7	3,600,000	0.279	1,004,400
	TOTAL P.V		8,662,720
	Less initial capital		(8,000,000)
	N,P.V. (+ve)		662,720

Project Y

Year	Cash flows	PVIF$_{20\%}$, n	P.V
1	4,000,000	0.833	3,332,000
2	3,200,000	0.694	2,082,000
3	4,800,000	0.579	2,779,200
4	800,000	0.482	385,600
			8,578,800
			(8,000,000)
			578,000

(c) **Project X**

N.P.V @ 24% = -296,120
N.P.V @ 20% = 662,720

$$I.R.R = 20\% + \frac{662,720}{662,720 + 296,120}\left(24\% - 20\%\right)$$

= 20% + 2.8 = 22.8%

Project Y

25% = -94,400
N.P.V @ 20% = 578,000
N.PV @

$$I.R.R = 20\% + \left(\frac{578,000}{578,000 + 94,400}\right)(25\% - 20\%)$$

20 + 4.3 = 24.3%

(d) -N.P.V method ranks project X as number one
- I.RR method ranks project Y as number one
- There is conflict in ranking of mutually exclusive projects

(e) Conflict between N.P.V and I.R.R
- Incase of difference in economic lives of projects
- Incase of difference in size of the projects
- Incase of difference in timing of cash flow
- Incase of non-conventional cash flows

QUESTION FIVE

(a)   "Capital flight" is the smuggling of funds from a country through usually unofficial channels overseas. It is commonly found in economies that have foreign exchange control laws (regulations) where investments move from home country seeking higher returns in other countries.

(b)   -Political instability – Many members of the ruling elite unsure about their fate
              should their regimes be overthrown – thus transfer wealth to more stable
              countries.
        -       Lower rate of return in home country
        -       Higher taxation of companies and individuals
        -       Artificially high local currency value encourages capital flight as those involved
                realize much higher values of hard currencies on exchange.
        -       Poor infrastructure
        -       Due to high levels of corruption among the ruling elite – they want to keep
                their wealth out of reach of their local fellow citizens would raise questions on
                how wealth was created
        -       High inflation rate
        -       Legal framework e.g fiscal policies

(c)   Massive capital flight forces a country to devalue local currency as they often have to run to the multilateral finance institutions like World Bank and IMF for salvation of the very constantly worsening Balance of Payment problem

QUESTION SIX

(a)   (i)   **Matching**
                The traditional view is that fixed assets should be financed by term sources of finance and current assets by a mixture of long-term and short-term sources

        (ii)   **Cost** –he company may find it easier to raise short term finance with lowsecurity than long term finance

        (iv)   **Security** –The company may find it easier to raise short term finance with lowsecurity than long term finance

        (v)   **Risk** –In opting for short-term debt, the company faces the risk that it may notbe able to renegotiate the loan on such good terms. Long term loans are thus less risky

        (v)   **Flexibility** –Short term debt is more flexible since it allows the firm to react tointerest rate charges and avoid being locked into an expensive long term fixed rule commitment when rates are falling.

(b)   **Benefits of a right issue to Malindi Leisure Industries;**
        The company is highly geared as rights issue would reduce the level of gearing and reduce in the level of financial risk.

        If the issue is successful it will not significantly change the voting structure.

        If underwriters are raised then the amount of finance that will be known and guaranteed

If the market is high, Malindi Leisure Industries should be able to achieve a rights issue at a relatively low cost since less shares will be issued. (Lower floatation costs)

Less administrative procedures e.g no need for prospectus.

Drawbacks of rights issue
The issue will need to be priced at a discount to the current share price in order to make it attractive to investors. Thus will result in a dilute in earnings and a fall in price.

If the issue is not successful, a significant number of shares may be taken by underwriters thus changing the voting structure

Administration and underwriting costs are high

Shareholders may be unable or unwilling to increase their investment in Malindi Leisure Industries

(c)   **Advantages of leasing**
No risk of obsolescence in the lessee

Leasing does not require a down payment to be made at the start of the contract unlike hire purchase. (No heavy initial capital outlay required)

Lease finance can be arranged relatively, cheaply, quickly and easily Operating leases are off-balance sheet financing

Advantages of hire purchase
Unlike leasing, hire purchase allows the user of the asset to obtain ownership at the end of the agreement period

The interest element of the payments is allowable against tax

Tax shield on salvage value at the end of economic life of asset

DECEMBER 2010

QUESTION ONE

(a)   A conservative policy and an aggressive policy

(i)   **A conservative policy**
In a conservative working capital management policy, an organization uses more of
long-term sources of finance. Long-term sources are used to finance all permanent
working capital (current assets) and part of temporary current assets. The firm is
therefore more liquid but sacrifices profitability as interest charges have to be paid
on long term finance even when it is not required.

(ii)   **An aggressive policy**
An aggressive policy uses more of short-term finance. All seasonal working capital
requirements and part of permanent current assets are financed from short-term
sources. This policy lead to higher levels of profitability at the expense of liquidity.

(b)   (i)Proposal A

Current average collection period	= 0.25(32) + 0.6(50) + 0.15(80)
	= 50 days
	credit Sales x AcP
	360
	360m x 50
	360
	Sh.50 million

After adoption of proposal A	
Average debtors	0.6 x 600 million x 32
	360
	32 m

Therefore
Reduction in investment in debtors(50 – 32)   = 18m

Financial effects		**Sh.000**
Reduction in operating cost (2,750 x 12)		33,000
Decrease in bad debts		
Current level		
With alternative A (2% x 60% x 600,000 x 0.5 (7,200)		3,600
Reduced W capital costs (15% x 18,000)	3,600	2,700
		3,930
Costs		
Discounts expense		
Credit customers (2% x 60% x 600,000 x 50%) 7,200		
Cash customers (2% x 40% x 600,000)	4,800	
		12,000
Net benefits		24,540
		27,300

Alternative B:
Average debtors current   50 million
Average adoption of alternative B 360m x 20   20 million
                                                                      360

Therefore
Decrease in investment in debtors 30m x 0.85
Monthly sales   = 600m/12   =   50 million
Credit sales   = 60% x 50m   =   30 million
Monthly interest charges = 15% x 30m x 0.9   =   Sh.405,000

Financial effects: **Sh.000**
Bad debt losses saved   7,200
Savings on debt admn. (140 x 12)   16,800
Savings on debtors investment (15% x 30m x 0.9 =   4,500
                                                                28,000

Less costs
Fees charged (2% x 360,000) = 7,200
Interest charges (405 x 12)   = 4860
Net benefit   12,060
                                                              16,410

(ii)   Preferred alternative (alternative A) is to introduce cash discount since it has a higher net benefit.

(iii)   Other non-financial factors to consider include
            -    Effect of each policy on growth of the company
            -    Reliability of the factor
            -    How realistic the estimates are
            -    Reaction of employees and customers
            -    Expected trends/level of sales in the industry

QUESTION TWO

(a)   **Why cash flows are considered to be more relevant for the following reasons:**
            They are not affected by the accounting policies adopted in preparing financial statements
        Cash flows rather than profits determine the viability of any project
            Accounting profits include some non-cash items such as depreciation which are irrelevant in the investment decision.
            Cash flows are not affected by accounting standards They are also easier to measure/ascertain.
        It is in line with shareholders wealth maximization objects

(b)   (i). The net book value of existing machine would be :
            $\left(\dfrac{50m - 0}{8 \text{years}} \right)$

        50m| | |x3 =31.25m(8years)

		Sh.M
Cost of new machine 80 + 6		86.00
Less disposal value of old machine:		(35.00)
Disposal value	35.00	
NBV	31.25	
Gain on disposal	3.75	
Tax on disposal = 30% x 3.75		1.125
Increamental working capital		8.00
Total investment		60.125

(**ii)**

Depreciation of new machine

$$= \frac{86-5}{8}$$

                    16.2m

Depreciation of new $= \frac{50-0}{8}$

                        6.25

Increamental depreciation   9.95

Increamental sales		25.00
Less: variable costs @ 60%		(15.00)
E.B.T		10.00
Less tax @ 30%		(3.00)
E.A.T		7.00
Add tax shield on depreciation 30% x 9.95		2.985
Operating cashflows p.a for 5 years		9.985 p.a
Terminal cash flows:		
Salvage value of new asset	5.00	
Salvage value of old asset	0.00	5.00
Released working capital		8.00
Terminal cash flows at end of year 5		(16.758)

(iii).

P Value of annual operating cashflows @12% = (9985 x 3,605)	35.996
P.V of terminal cash flows @ 12% = 13.000 x 0.567	7,371
Total P.V	43.367
Less initial capital	(60.125)
NPV negative	(16.758)

Since the NPV is negative, the existing equipment should not be replaced.

(iv) The minimum after tax annual cashflow to make the project acceptable	**Sh."000"**
Current operating after tax CF	9,985
Add Deficiency in NPV annualized	
(16,758/3.605)	4,649
Required after tax CF for NPV to be equal to zero	14,634

QUESTION THREE

(a) **Agency costs**

These are cost borne by shareholders of an organization as a result of not being directly involved in decision making, when the decisions are made by the directors. Agency costs are incurred when management decisions are based on the interests of directors rather than shareholders.

Examples of agency costs.

(i)   Expenditure for external audit incurred by the organization

(ii)   Installation of systems of internal control and internal audit

(iii) Opportunity costs of foregone projects which are perceived by management to be too risky.

(iv)   „Perks" and incentives paid by the organization to make directors act the best interests of shareholders.

(b)   (i)Levels determined by retained earnings available

$$\frac{5.4m}{0.45} = 12 \text{ million}$$

Level determined by debt available

$$\frac{4m}{0.25} = 16 \text{million}$$

(ii)   Weighted marginal cost of capital for each of the ranges of financing:

From 0   Sh. 12 million

Cost of equity $=$ $\left[\frac{3.22}{2.52}\right]^{15} -1$ 0.05 or 5%

Ke $=$ $\frac{Do\ (1\ .0g)}{Po} + g$ (Retained earnings)

$=$ $\frac{3.22\ (1\ .05)}{22.4} + 0.05$

$=$ 0.20 or 20%

Cost of preference shares

Kp $\frac{12}{80}$ x 100%

15%

Cost of debt

Kd $= 1\frac{(1-1)}{Pd}$ x 100%

$= \frac{90\ x\ 0.7\ x\ 100\%}{900}$

$= 7\%$

WMCC $= (0.45$ x $20\%) + 0.3(15\%) + 0.2(7\%)$

For the range 12m   16m

Only cost of equity changes since extended equity is to be raised.

Thus.

Ke $= \frac{3.22(1.05)}{22.4 - 3.6} + 0.05$

23%

Thus WMCC $= (0.45$ x $23\%) + (0.3$ x$15\%) + (0.25$ x $7\%)$
$= 16.6\%$

For the range 16m 20m
Cost of equity (Ke)
Cost of preference shares (Kp)
Cost of debt $\frac{430(0.7)\ x}{910}$ 100%

10%
Thus WMCC $= (0.45$ x $23\%) + (0.3$ x$15\%) + (0.25$ x $10\%)$
$= 17.35\%$

(iii)   **Graphical illustration of WMCC/investment projects" IRR and level of financing.**
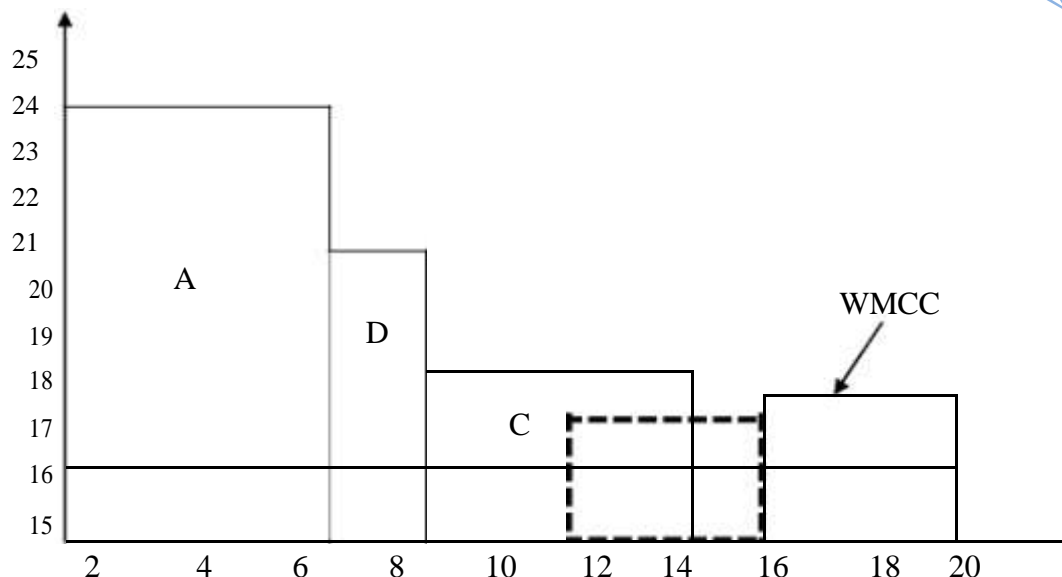
QUESTION FOUR

(a)   **Increase by 15%**   **Sh."m"**

Increased in assets 300 x 0.15 x 15	67.5
Increased in liability 300 x 0.15 x 0.4	(18)
Retained earnings 300 x 1.15 x 0.12 x 0.75	(31.05)
Additional funds required For achieve growth of 15%	18.45

(b)   **Let g be growth rate: If no eternal funds are used**

500g x 1.5   300g x 0.4   300 (14g) (0.12) (0.75)   = 0

15g 0.4 (1.4g) (0.14) (0.75)   = 0

            104g   0.09

Growth rate with only   g   0.891 or 8.91%

Internal funds

(c)   **Financial gearing will gradually fall as the amount of a company"s retained earnings increases.**

800g x 1.5   300g x 0.4 300(1.4g)(0.12)(0.75) 300(1 + g) (0.12) (0.75) $\underline{40}$ = 0
                                                                                        60

1.5g 0.4g   (1+g) (0.12) (0.75) (1+g)(0.12) x (0.75) $\underline{40}$
                                                            60

g   0.1579 or 15.79%

(d)   Limitation of forecasting method

- The net profit margin may vary from the current 12%

- Companies normally try to maintain a constant or slightly increasing dividend per share rather than the constant dividend payout ratio which is assumed in the question.

- Fixed assets, stocks and debtors are unlikely to increase in direct proportion to sales similarly, creditors.

- Internally generated cash is taken to be retained profits this ignores non-cash items (dep n)

QUESTION FIVE

(a)   Floating rate bond

Bonds are said to be issued at a floating rate when the interest payable on the par value varies over the life of the bond in line with movements in the rates in the market typically based on the interest changeable on the short term-term treasury assets

(b)   Merits to business organizations

- A company may be reluctant to pay a fixed rate of interest over a long period of time especially if the market interest rates are falling with time. Floating rate therefore reduces interest cost to firms.

- The further into the future the maturity of date of the loan, the greater is the interest that has to be offered by the borrower in order to persuade the leader to part with his money. This is because the risk of default is deemed by investors to be higher, the further into the future is the maturity date. This however need not to be the case when interest rate is floating because in this case, investors will view a long-term loan as several short-term loans, therefore with shorter maturities interest charged is thus smaller.

- It is easier to issue a floating rate bond with a longer maturity than negotiating short-term loans every so often to take care of falling short-term interest rates.

- Allows firms to obtain funds for long-term investments without committing a fixed rate of return over the loan"s life i.e. the firm can take advantage of falling interest rates while at the same time obtaining a higher return on the funds obtained.

Demerits

- If interest rates are expected to rise with time, the firm is likely to end up paying a higher cost using floating rate bonds than it would if it is used a fixed rate bond. This is also accompanied with the cost of forecasting charges in the future rates of interest.

- The company may end up losing a lot of money in interest payment if the charges in the rate of interest in the future takes on forecast by the financial manager.

- When the return on investment over time is not closely synchronized with changes in interest rate, the company may find itself unable to meet interest payments due a situation that may result in bankruptcy.

QUESTION SIX

(a) **Cross-border listing**
- Listing of securities issued by a foreign issuer on a domestic securities exchange.
- The issuer/company is usually listed on more than one exchange in several different countries.
- Examples: - East African Breweries Ltd. (EABL) and Kenya Airways are listed on the NSE and Uganda Stock Exchange.

(b) **Why seek cross-boarder listing**
- Raise debt or equity capital especially where funds available in domestic market are insufficient or more costly.
- Diversification and spreading risk creating increasing stability of share prices.
- Increase trading volume of shares since shares are offered in a wider market.
- Boost the company status as a truly global player.
- Correct valuation of shares since there are many market players with a wider market.
- Attract overseas investors and consumers and improving product/brand awareness in other markets.
- Improve shareholders relations.
- Tap retail and institutional funds.

(c) **Barriers to cross-boarder listing**
- Legal issues regarding restrictions imposed by host government
- Disclosure requirements for firms entering into new stock markets.
- Previous trading record is usually required in many strong foreign exchanges.
- Requirement for a particular percent of shares to be in hands of the public.
- Minimum share price or market capitalization rules.
- Strict discipline rules e.g. no making management changes before informing the Capital Market Authorities.

JUNE 2011

QUESTION ONE

(a)   Refer to question to Q4 June 2001

(b) (i). Expected rate return on ordinary shares is equal to cost of equity, ke Ke –

$$\frac{do(i+g)}{Po} + g$$

do(1+g) = Expected D.P.S = Sh.1.20
po = current M.P.S. = Sh 30 g
= growth rate = 10%

ke - $\frac{1.20}{30}$ + 0.10 – 0.14 = 14% 30

(ii).   Effect of cost os
- Debt kd
- Debentures have a definite maturity period hence

$$Kd = \frac{Int (I–T) + (m–vd) 1/n}{(m + vd)/2}$$

$$= \frac{(6\% \times 150)(1–0.3) + (150–100)1/100}{(150 + 100) \frac{1}{2}}$$

$$= \frac{6.3 +0.5}{125} = \frac{6.8}{125} \times 100 = 5.44\%$$

vd = current make value and m = par/maturity value

- cost of preference share capital kp preference shares are selling at par hence market price = par value and kp = coupon rate = 10%

(iii).   M.V. of equity = Sh. 30 x 3m shares   = 90 m
M.V of debt – Sh. 100 x 0.2m debentures = 20m
M.V. of preferred shares – par value   = 20m
                    Total Market Value   130m

Wall = 14% (90/130) + 5.44% (20/130) + 10% (20/130) = 9.69+0.84+1.54
                                                                = 12.02%

(iv). No floatation costs one given hence marginal cost of debt and equities is 5.44% 14% respectively
- The amount to raise is 50m where 60% (30m/50m) will from debt and 40% from issue of shares.
- Therefore WACC = (5.44% x 0.6) + (0.4 x 14%) = **8.864%**

QUESTION TWO

(a). Importance of capital budgeting decision
- They have long term implications to the firm e.g. they influence long term variability of cashflows
- They are irreversible and very costly to reverse
- They involve significant amount of initial capital.

(b) (i). The net book value (NBV) of existing asset after
   2 years is 4m – (4m/5yrs x 2 years) = 2.4m

  - The Sh. 2.4m will be depreciated for 10years i.e. 0.240m p.a.

		Sh. M
- Cost of new machine 8m + 0.4m		8.4
- Less market value of old asset		(2.5)
- Less incremental net working capital (0.32 + 0.14 – 0.30)		(0.16)
- Tax effect on disposal of old asset		
Market value	2.5	
NBV	2.4	
Profit on disposal	0.1	
Tax payable = 0.1m x 30%		(0.03)
Net initial capital		(5.71)

      = Sh. 5,710,000

(ii) - incremental depreciation for 10 years remainingnew
   machine $\frac{8.4m – 0}{10}$ = 0.84

- Less old machine Incremental depreciation p.a. $= \underline{0.24}$
             $\underline{0.60}$

- Incremental salvage value New machine
   Less old machine Incremental salvage value Add release of working capital
   Net increment terminal cashflow

- Operating cashflow = incremental EBDT (I-T) + Tax shared where incremental EBDT = EBDT (new asset) – EBDT (old asset)

Year	Incremental EDBT (I-T)	Tax Shield	Operating cashflow	PVIF 10%	PV
1	(0.35 – 0.28)(0.7) = 0.049	0.18	0.229	0.909	0.208
2	(0.40 - 0.30)(0.7)=0.070	0.18	0.250	0.826	0.207
3	(0.42 – 0.32)(0.7)=0.070	0.18	0.250	0.751	0.188
4	(0.41 – 0.34)(0.7)=0.049	0.18	0.229	0.683	0.156
5	(0.41 – 0.34)(0.7)=0.049	0.18	0.229	0.621	0.142
6	(0.38 – 0.32)(0.7)=0.042	0.18	0.222	0.564	0.125
7	(0.38 – 0.31)(0.7)=0.049	0.18	0.229	0.513	0.118
8	(0.35 – 0.28)(0.7)=0.049	0.18	0.229	0.467	0.107
9	(0.30 – 0.26)(0.7)=0.028	0.18	0.208	0.424	0.088
10	(0.28 – 0.24)(0.7)=0.028	0.18	0.208	0.386	0.050
10	Terminal cashflow –	-	(0.34)	0.386	(0.131)

Total incremental P.V	1.288
Less incremental initial capital	(5.71)
Incremental N.P.V –ve	(4.422)

It is not worthwhile to replace the machine.

QUESTION THREE

(a)   Limitations of ratios
-    They are based on historical data
-    They are easy to manipulate due to different accounting policies adapted by the firms
-    They are only quantitative measures but ignore qualitative issues such as quality of service, technological innovations etc
-    They constantly change hence are computed at one point in time e.g. liquidity ratios change now and then
-    They don"t incorporate the effect of inflation
-    They don"t have standard computational purposes, firms are of different sizes

(b)		**Ratio**	**Formulae**	**Computation**
	(i)	Acid test ratio	$\frac{\text{Current Asset-stock}}{\text{Current Liabilities}}$	$= \frac{205.9 - 150}{138.3} =$
	(ii)	Operating profit ratio	$\frac{\text{EBIT/Operating profit}}{\text{Sales}}$ x 100	$= \frac{53 + 4}{900}$ x 100 $=$
	(iii)	Return on total capital Employed	$\frac{\text{Net Profit after Tax}}{\text{Sales}}$ x 100	$= \frac{88.9}{900}$ x 100 $=$
	(iv)	Price Earning ratio	$\frac{\text{M.P.S}}{\text{EPS}}$	$= \frac{20}{(88.9 - 4.8)/10m \text{ shares}}$
		Interest coverage ratio	$= 20/8.41 = 2.38$ times	
	(v)		EBIT/Interest changes	$= (53 + 4)/4$ $= 14.25$ times
	(vi)	Total Asset Turnover	Sales/ Total Assets	$=900/213.9+205.9$ $= 2.14$ times

(c)	Working capital cycle=	Stockholding period	Debtors +collection period	Creditors -payment period		
	Stockholding period =	Average debts Cost of sales	x 365	$=(210\times150)^{½}$ 720	x 365	=91.25
	Debtors collection period =	Average creditors Credit sales	x 365	$= \underline{35.9}$ 600	x 365	= 21.84
	Creditors payment period =	Average creditors Credit purchases	x 365	$= \underline{60}$ 660	x 365	= (33.18)
	Working capital / Cash operating cycle					79.91 80 days

QUESTION FOUR

(a) (i)- New shares to issue = $\underline{\text{Shs. }22{,}500{,}000}$ = 300,000
                           Shs. 75

       - Number of rights required = $\underline{\text{Existing shares}}$ = $\underline{900{,}000}$ = 3
                               new shares   300,000

(ii) 3 existing shares held will enable a shareholder to buy 1 new share hence this is a one for three rights issue

     3 existing shares @ Sh. 130   = 390
     $\underline{1}$ new share   @ Sh. 75   = $\underline{75}$
     $\underline{4}$ shares   465
      Ex – right MPS = $\underline{465}$ Sh. 116.25
                       4

(iii) Value of a right   = cum right – ex-right
                         M.P.S.   M.P.S
                         = 130 - 116.25 = 13.75

(iv). If the investor ignores the rights issues, his wealth would decline by an amount equal to value of right e.g. if before rights issue one had two shares @ Sh. 130, then wealth = 130 x 1000 = Sh. 130,000
- if rights issue is ignored, then value of each share after rights issue is Sh. 116.25 hence wealth = 116.25 x 1000
                = 116,250, the wealth declines by
                Sh. 13,750 i.e. 13.75 x 1000 shares.

(b). (i). Upper cash limit , H = 32 – 2L
               = 3 x 510,547 – 2 x 500000 = $\underline{\text{Sh. }531{,}641}$

(ii). Average cash balance = $\underline{42 - L}$
                                  3
                      = $\underline{4 \times 510547 - 50000}$ = Sh. 514

(iii) According to Miller – our method, the optional cash balance / return point, 2 = $3\sqrt{\dfrac{3b\sigma^2}{4i}}$ + L where

σ^2 = daily variance of cash flow = $(20000)2$ = 40,000,000,000

l = minimum cash balance = Sh. 500,000
b = transaction cost   = Sh. 150
i = daily interest rate = $\frac{14\%}{365}$ = 0.03836% = $\underline{0.0003836}$

$z = 3\sqrt{\dfrac{3 \times 15 \times 40000000000}{x\ 0.0003836}} + 500000 = 10546 = \underline{510{,}547}$ 4

(c)   - "Overtrading" refers to an attempt by the firm to achieve too much sales volume too quickly without adequate capital to support the increase in sales
      - The symptoms of overtrading are.
- rapid increase in short term financing to finance sales
- high current liabilities and low liquidity ratios
- rapid increase in sales volume over the year
- increase in the gearing of the firm as equity capital remain constant.

QUESTION FIVE

(a)   Difference between a broker and a dealer

- a broker buys and sells shares on behalf of the investors as an agent. A dealer buys shares on his own behalf as a principal
- a broker earns commission based on % of value transaction. A dealer earns profits being the difference between selling and buying prices.
- The returns of brokers is not influenced by changes in share price unlike that of dealers.
- Brokers give investment advice to members of the profit but dealers cannot.

(b)   Advantages of having a dealer in the market
- He makes shares available to stock broker
- He is a market maker
- He increases the liquidity and marketability of shares.
- He makes shares available to all potential investors.

(c)   (i). Advantages of central depositing system (CDS)
        - refer to Question 1 b(ii) June 2000

      (ii)   Problems in initial introduction of CDS
- Security risk on implementation of CDS.
- Infrastructural support framework.
- Legal framework of regulating electronic ownership of shares.
- Will the management team be effective to ensure success?

QUESTION SIX

(a). Factors contributing to popularity of commercial paper (C.P.)
- Low cost of short term growing (low interest rate)
- No collateral is required. Only a guarantor when borrowing.
- Involves less legal formalities compared to bank overdraft.
- It can secure a huge amount of short term credit compared to bank overdraft.
- Successful issue of a C.P. improves credit rating of the firm and may attract other sources of short term financing.

(b).   "Factoring" and "invoicing discounting" factoring.

- Involves sale of debtors to a lender called factor.	- Invoice discounting
- The factor/lender takes the responsibility for bad debts on debts factored	- Involves use of debtors as a collateral/security for short term borrowing
- Lender/factor take the responsibility of collection of debt.	- the lender has no onus on bad debts. - The seller/borrower still have the onus on debt collection.
- The buyer/debtor is notified of the factoring arrangement.	- The buyer/debtor is not notified of the invoice discounting arrangement.

(c). An underwriter is a financial institution that undertakes to buy all shares not bought by members of the public . The institution therefore act as an insurer and ensures that.

(i). All shares are subscribed for

(ii) the firm is able to raise the required capital

The underwriter is paid an undertaking fees for his services. He could later sell the shares to potential investors at a gain (price above the issue price).

DECEMBER 2011

QUESTION ONE

(a)   Dow theory
This theory views the movement of market prices occurring in three categories:

- **Primary movements**

    These are called bull and bear markets. Bull markets are where prices move in an upward manner for several years. Bear markets , on the other hand, are where prices move in a downward manner for several months or a few years.

- **Secondary movements**

    These are up and down movements of stock prices that last for a few months and are called corrections

- **Daily movements**

    These are meaningless random daily fluctuations. These are generally ignored during charting of indices.

(b)   Factors to consider in the construction of stock market index:

1.   Sample size

    The sample should be a statistically significant fraction of the population studied because larger samples tend to produce more accurate indications about the underlying population. If a sample is too large, it can be costly to compile.

2.   Representatives

    The sample should contain heterogeneous elements representing all segments of the population.

3.   **Weighing**

    The various elements in the sample should be assigned weights that correspond to investment opportunities in the population under study:

    (i)   A security"s weight in some in some index might be proportional to the total market value of all the firm"s shares that are outstanding stated as a fraction on the total market value of all the securities being traded in its market. Such value-weighing of an index is done to reflect investment opportunities in existence at any movement.

    (ii)   Equal weights could be used to represent the probability of selecting any given security with random sampling (or equivalently, selecting stocks by throwing un anaimed dart.). An equally weighed index represents a "no skill" or naïve buy and hold investment strategy

(4)   Convenient units
    An index should be sated in units that are easy to understand and which facilitate answering questions.

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(5) Computation of the mean

Most security market indicators are calculated as some sort of arithmetic average. The geometric average is an alternative computational procedure, it results in a smaller but similar value that is less volatile than an arithmetic mean calculated from the same sample of securities.

(6) Timing interval on which calculations of index are based.

(7) The prices to use for computation we close, mean, low, high.

(c) **Finite earnings growth model:**

$$Po = \sum_{t=1}^{N} \frac{Eo(1+g)^1 (D/Po)}{(1+k)^1} + \frac{Eo(1+g)^N (P/E)_N}{(1+k)^N}$$

Eo = Current earnings per share
g = Earning growth
D = Dividend per share
Po = Current price per share
k = The required rate of return

D/Po = $1 – b$ i.e. dividend payout ratio (b is retention rate)

$1-b$ = Sh. 4.0 and k = 0.15

$$Po = \sum_{t=1}^{N} \frac{4(1.10)^1 (0.6)}{(1.15)^t} + \frac{4(1.10)^6 (20)}{(1+0.15)^6}$$

$$= \frac{2.64}{1.15} + \frac{2.904}{(1.15)^2} + \frac{3.194}{(1.15)^3} + \frac{3.514}{(1.15)^4} + \frac{3.865}{(1.15)^5} + \frac{4.252}{(1.15)^6}$$

$$(i)\ \frac{7.09(20)}{(1.15)^6}$$

$= 2.296 + 2.196 + 2.10 + 2.01 + 1.922 + 1.838 + 61.272$

$=$ Sh.73.632

QUESTION TWO

(a)   Cashflow are considered to be more important than accounting profits because:
- Accounting profits are affected by the accounting policies adopted
- There are non cash transactions involved in the determination profits and thereafter they may not be realized for investment purposes.
- The success of an investment depends mainly on cash movements than profits as reported.
- Whereas cashflows can be realized to levels of risk, accounting profits are not directly related to risk.

(b)   (i)   The Net Present Value (NPV)

Project A:	Sh.000
Subject-project 1 (25,600/0.16)	160,000
Subject-project 2 85,200 x PVFA(8.16%)(4.3436)	370,075
Less initial cost	530,075
Net present value	400,000
	130,075

Project B:	Sh.000
P.V. of inflows(87,000/0.16)	543,750
Initial cash outflow	400,000
Net Present Value	**143,750**

(ii)   For each project the IRR should be greater since NPV is positive at 16%.
For project A, we use 2 rates, 20% and 28% to approximate IRR.

	20% Sh.000		28% Sh.000
Sub-project 1: 25,600/0.2	128,000	25,600/0.28	91,429
Sub-project 2: 85,200 x PVFA(8.20%)		85200 x PVF(8.20%)	
OR 3.8372	326,929	OR 3.0758	262,058
	454,929		353,487
Less I.C.O	400,000		400,000
NPV	**54,929**		**(46,513)**

Thus IRR = 20% + $\left[\dfrac{54,929}{54,929 + 46,513}\right]$ (28-20)

=   20% + 4.3%
=   24.3% OR **24%**

For Project B:IRR= $\dfrac{87,000}{400,000}$ x 100%

= **21.75%**

(iii)   According to NPV, project B is preferred (NPV of 143,750 > 130,075). However, based on IRR Project A is preferred (IRR of 20%> 21.75%)

Project B should be selected since NPV and shareholders wealth increase more under this project. IRR gives proportionate returns and presumes that cash flows are re-invested at the IRR which is not realistic.

QUESTION THREE

(a)   **Financial risk**

- This refers to the variability in earnings available to ordinary shareholders as a result of using debt finance which has a fixed interest charge.

- In times of excessive profits, the earnings are enhanced due to lower charges for interest. However during period of low profits, the shareholders risk not getting any return since interest on debt is to be paid irrespective of profits earned.

Operating risk

- Operating risk on the other hand is caused by incurrence of fixed costs in production process. It is the variability in operating income as a result of incurring fixed operating costs.

- When fixed costs are high, this variability will be higher for any change or movement in sales and hence operating risk is higher.

(b)   (i)   Earnings per share   = **Marketing price/share**
                                         P/E ratio
                                 = $\dfrac{8.4}{6}$

                                 = **Sh.1.4**

Operating income is the earnings before interest and tax
       $\Rightarrow 0.7\ x = 6$ million x 1.4

                       x   = 8,400,000

                           = $\dfrac{\text{Sh.8400}}{0.7}$

                           = Sh.12,000,000 or 12 million

     (ii) No of shares   = $\dfrac{10,000,000}{6.25}$

                           = **Sh.1,600,000 shares**

     Theoretical   ex-rights   = $\dfrac{6 \text{ million} \times 8.4 + 1.6m \times 6.25}{7.6m}$
     price

                         = $\dfrac{50.4 + 10}{7.6}$

                         = **Sh.7.95**

(iii)

	Alternative A Sh.000	Alternative B Sh.000
Current level of EBIT	12,000	12,600
New project	5,600	5,600
Operating income	17,600	17,600
Less interest	-	(12% x 10m) 1,200
Net profit before tax	17,600	16,400
Less: Tax (30%)	5,280	4,920
Profit after tax	12,320	11,480

**FINANCIAL
MANAGEMENT**

Earnings/shares	12,320	11,480
	7,600	6,000
	1.621	**Sh.1.913**

It is better to finance using debt finance since it results in lower costs and hence a higher earnings per share.

(iv)   The statement is true when the operating income is high. Under such circumstances EPS will increase as a result of using debt finance. However, if the level of operating income is low, debt finance will be expensive since interest has to be paid, The EPS for a geared company under such circumstances may be even negative. This may be illustrated as follows:
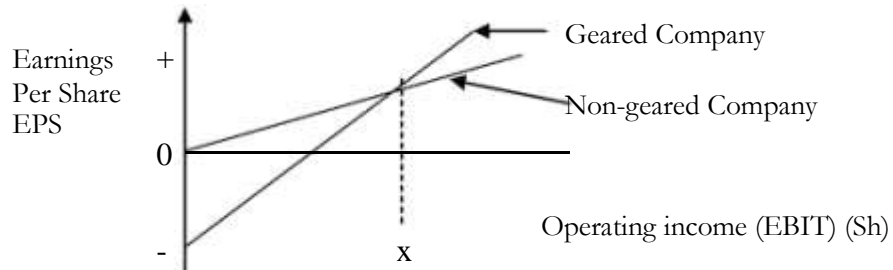
i.e. there is no need to use debt finance if operating income is below x. EPS would be higher if the company was all-equity financed. Beyond operating income of Sh.x debt would result in increased EPS.

(c)   (i)   Expected MPS at end of year 6   =   Expected P/E x EPS
                                                    =   20 x 4 = Sh.80

(ii)   Current DPS=   Dividend payout ratio x EPS
                    =   60% x 4
                    =   Sh.2.40

Since the investment horizon is only 6 years during which DPS is expected to increase with EPS at 10%, the expected intrinsic value of a share = PV of 5

PV of all expected cash flow from holding a share:

(ii)   Expected DPS at end of each year
(iii)   MPS/S price at the end of year 6

Discounting rate = required return on equity = 15%

End of year	Expected DPS	PVIF15%n	PV
1	$2.40(1.10)^1$ = 2.64	0.879	2.297
2	$2.40(1.10)^2$ = 2.90	0.756	2.192
3	$2.40(1.10)^3$ = 3.19	0.658	2.099

4	$2.40(1.10)^4 = 3.51$	0.572	2.008
5	$2.40(1.10)^5 = 3.87$	0.497	1.923
6	$2.40(1.10)^6 = 4.25$	0.432	1.836
6	MPS = 80	0.432	<u>34.56</u> <u>46.92</u>

QUESTION FOUR

(a)   Fixed Assets Turnover $\dfrac{Sales}{Fixed\ Assets}$ = FA T/O x FA
= 1.8 x 15,000
= 135,000

Gross Profit Margin = $\dfrac{Gross\ Profit}{Sales}$ x 100   = Sales x Gross profit margin
= 135,000 x 45%
= 60,750

Cost of Sales =   Sales – Gross Profit   = 135,000 – 60,750
= 74,250

Stock turnover = $\dfrac{Cost\ of\ Sales}{Closing/Av.\ Stock}$ = $\dfrac{74,250}{4.4}$

= 16.875

Average collection period Debtors = $\dfrac{Average\ debtors}{Credit\ sales\ p.a.}$ x 360   = 108,000

Credit sales = 80% of sales   = $\dfrac{80}{100}$ x 135,000   = 108,000

Debtors = $\dfrac{Average\ collection\ period}{360}$ x credit sales p.a.   = $\dfrac{84 \times 108,000}{360}$ = 25,200

Interest cover =   Times Interest earned ratio (TIER)   = $\dfrac{EBIT}{Interest\ charges}$

EBIT = Sales – Cost of Sales – operating expenses
      = 135,000 – 74,250 – 39,150
      = 21,600
TIER = 4 times

Interest charges = $\dfrac{21,600}{4}$ =   5,400

Compute debt capital

Interest charges =   Interest rate x debt capital
      Debt = $\dfrac{Interest\ Charges}{Interest\ rate}$

$$= \quad \frac{5,400}{0.18} \quad = \quad 30,000$$

QUESTION FIVE

(a) **Liquidity – profitability trade-off a firm may be required to consider:**
A firm needs to generate profits on returns to those who have their funds. At the same time, it needs liquidity in order to meet its day obligations. If the firm maintains a high level of liquidity, there is an opportunity cost in terms of the returns which are foregone had the funds invested. On the other hand if liquidity levels are too low, the firm may be unable to meet its obligations as and when they are due. This may be illustrated as follows:

(b) A company may use matching strategy where source of finance has some maturity with the life of assets being financed.

An aggressive policy uses more of short-term finance for the current assets (permanent working capital) requirement of the firm whereas as conservative policy employs more of long-term finance.

An aggressive policy is risky – it implies less liquidity for the firm since funds are arranged on short-term basis when required. It lead to greater returns, no costs will be paid when the finance is not used. Could generate settlement problems.

A conservative policy employs more of long-term sources of finance (enhancing liquidity). This may however, be associated with lower returns since the cost of funds has to be met irrespective of whether its being used.

(c) **Three forms of capital market efficiency:**

- **Weak form**
  In this form of efficiency, the security prices will reflect past information regarding the company. The market price of the shares will be based on past performance.

- **Semi-strong form**
  In this form of efficiency, the security prices will reflect both past information and publicly available information. Publicly available information may be information made available through financial statements.

- **Strong form**
  The security prices will reflect all relevant information. In a company this implies that there would not exist overvalued or undervalued securities.

(d) **Factors underlying the low rate of listing or companies in a stock exchange:**

- **Undervalued shares**
  Due to market inefficiency the shares of the companies are at times undervalued based on the market value. This leads to low market value of the company.

- **Listing requirement**

Stringent conditions have to be met by a company to qualify for listing. Some companies have considered this prohibitive.

- **Compliance measures**

  Strict rules and regulations must be complied with by the quoted companies. There exists continued scrutiny and surveillance of the quoted companies by the Capital Market and the Nairobi Exchange.

- **Lack of privacy**

  A lot of information needs to be disclosed for the quoted companies. The companies are subjected to a lot of public scrutiny. Prospective companies may fear loss of privacy associated with listing.

- **Limited and public company requirement.**

  Only limited and public companies are allowed for listing. A number of companies are private companies and may therefore not qualify.

- Cost of risking – high level of listing (before)

QUESTION SIX

(a) **Difference between the following:**

(i) Market value and intrinsic value of a share

The market value is the value share based on the market prices. The intrinsic value is the value of a share based on the present value of the expected future earnings.

(ii) Weighted cost of capital and marginal cost of capital

Marginal cost of capital is the additional cost of capital for the extra capital to be raised. This is based on the new capital to be raised and additional cost to be incurred.

Weighted cost of capital is the cost of capital based on the existing sources finance. Unlike marginal cost of capital weighted cost of capital is based on the existing sources of capital and the cost of each source.

(iii) Capital structure and financial structure

Capital structure is the proportion of each source of finance in a firm based on a long-term sources of capital (long term debt, preference share capital plus equity).

Financial structure is the proportion of each source of finance in a firm based on both long-term and short-term sources of capital (entire left hand side of the balance sheet).

(iv) Formal markets and over-the-counter markets

Formal markets are organized security exchanges which deal with specific instruments. The operation of such formal markets is highly regulated, accessible to a few and deal with standardized instruments.

Over the counter markets are formal arrangements through which the interested parties transact. The deals in this market may be concluded over the phone or through computer terminals.

(b)   Factors that have limited the development of the venture capital market:

Venture capital is a form of investment in new small risky enterprises required to get them started by specialists called venture capitalists. Venture capitalists are investment specialists who raise pools of capital to fund new ventures which are likely to become public corporations in return for an ownership interest. Venture capitalists buy part of the stock of the company at a low price in anticipation that when the company goes public, they would sell the share at a higher price and therefore make a considerable profit.

- Lack of rich investors. This leads to inadequate equity capital.

- Inefficient stock market. This impairs the ability of the company to dispose of shares at a later date.

- Lack of managerial skills by the owners of the firm.

- Highly conservative approach by the venture capitalists.

JUNE 2012

QUESTION ONE

(a)   **Cost of capital**

- This is the rate used to discount the future cash flows of a business, to determine the value of the firm. The cost of capital can be viewed as the minimum return required by investors and should be used when evaluating investment proposals.

- In order to maximize the wealth of shareholders, the basic decision rule is that if cash flows relating to an investment proposal are negative, the proposal should be rejected. However, if the discounted cash flows are positive, the proposal should be accepted. The discounting is carried out using the firm"s cost of capital.

Why cost capital should be calculated with care:

- Failure to calculate the cost of capital correctly can in <u>incorrect investment</u> decisions being made.

- Where the cost of capital is understated, investment proposals which should be rejected may be accepted.

- Similarly, where the cost of capital is overstated, investment proposals may be rejected which should be accepted. In both cases, the shareholders would suffer a loss.

Note There is an inverse relationship between N.P.V. and cost of capital. The higherthe cost of capital, the lower the N.P.V. and vice versa.

(b)   **Required conditions for using the WACC**

♦   The WACC assumes the project is a marginal, scalar addition to the company"s existing activities, with no overspill or synergistic impact likely to disturb the current valuation relationships.

♦   It assumes that project financing involves no deviation from the current capital structure (otherwise the MCC should be used.). The financing mix is similar to existing capital structure.

♦   Using the WACC implies that any new project has the same systematic or operating risk as the company"s existing operations. This is possibly a reasonable assumptions for minor projects in existing areas and perhaps replacements but hardly so for major new product developments.

(c)   **Current Capital Structure**

Debt	3.6	25.5%
Equity	<u>10.5</u>	74.5%
	<u>14.1</u>	

Capital to be raised

Debt $25.5/_{100}$ x 45 = $^{11.475}$

Equity $74.5/_{100}$ x 45 = $^{33.525}/_{45m}$

Ordinary share capital amount to be raised = 33.525 -4m = 29.525m

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Number of ordinary shares = $\dfrac{29.525m}{Sh.40m}$ = 738,125 shares

Specific cost of retained earnings

EPS = 8   P/E = 5

Market price = 8 x 5 = 40

$K_e = \dfrac{5(1.06)1}{40} + 0.06 = 19.25\%$

Preference shares

$\frac{10}{100}$ x 100 = 10%

Debenture $\frac{10}{100}$ x 1000 = 100

$\frac{100}{1000}$ x 100 = 10%

effective cost = 10% (1 – 0.3) = 7%

Source	Amount	Proportion	Specific cost	Weighted cost
Retained earnings	4	8.9%	19.25%	1.7%
Ordinary share capital	29.525	65.6%	20.72%	13.6%
10% preference shares	10	22.2%	10%	2.22%
10% debentures	1.475	3.3%	6%	0.2%
	45m	100		17.72%

WACC = 17.72%   (10 marks)

QUESTION TWO

(a)   **Refer to solution of question 1 of revision paper 4**

(b)   (i) **Project I**

Investment cost = 18,000,000 + 25,000,000 $PVIF_{2,0.12}$
                  = 18,000,000 + 25,000,000 (0.797)
                  = 37,925,000

Cash flow

At year 2 =   15,000,000 $PVIF_{2,0.12}$

      = 15,000,000 (0.797) = 11, 955,000 At

year 3 = 12,000,000 $PVIF_{3,0.12}$

          12,000,000 = 8,544,000

Year 4 – 8 = (8,000,000 $PVAF_{5,0.12}$), $PVIF_{4,0.12}$

      (8,000,000) 2.526 = 20.526

      = 18,342,240 – 0.7118

NPV = 11,955,000 + 8,544,000 + 20,526,400 – 37,925,000

    = 3,098,000

     3.1m.

Project II

Outlay	50,000,000 + 18,000,000 = 68,000,000 = 68m
Additional outlay	2,000,000 $PVIF_{12\%,2}$ = 2,000,000 x 0.797 = 1,594,000 = 1.594m
	Total outlay = 68m + 1.594 = 69.594m

Cash inflow

=	P.V of annual C.F @ 12% =	20M x $PVAF_{12\%,5}$ = 20 x 3.605 = 72.10
=	P.V of salvage value @12% =	20m x $PVIF_{12\%,5}$ = 20 x 0.567 = 11.34
	Total P.V	83.44
	Less initial capital	(69.594)
	N.P.V	13.846

Project III

Sh."M

Item		Cash flows	$PVIF_{12\%,n}$	P.V
Initial capital	84m + 24m	(108)	1.000	(108)
Cash flows:				
Year 1	35 − 5	30	0.893	26.8
Year 2	30 − 3	27	0.797	21.5
Year 3	14 - 5	9	0.712	6.4
Released working capital		24	0.712	17.1
			N.P.V (negative)	(36.2)

(ii)   Project II, which has the highest NPV should be accepted.

QUESTION THREE

(a)   Matching approach

The matching approach to funding is where the maturity structure of the company"s financing matches the cash-flows generated by the assets employed. In simple terms, this means that long-term finance is used to fund fixed assets and permanent current assets, while fluctuating current assets are funded by short-term borrowings.

(b) **Miller-Orr cash management model**
In normal circumstances, cash-flows of a business go up and down in fairly random manner. Therefore, instead of assuming that daily balances cannot be predicted because they meander in a random fashion. This gives rise to a cash position like the one below;

Cash

Balance

X ——————————————————— Upper limit

Z ——————————————————— Return point

Lower limit

Y ———————————————————

→ Time
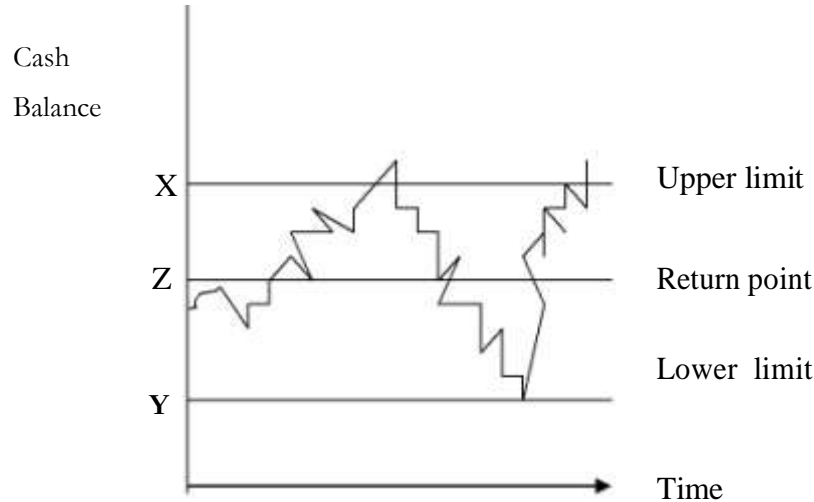
Rather than decide how often to transfer cash into the account, the treasurer sets upper and lower limits which, when reached, trigger cash adjustments sending the balance back to return point by selling short-term investments.

In general, the limits will be wider apart when daily cash flows are highly variable, transaction costs are high and interest on short-term investments are low. The following formulae are used:

Range between

Upper and lower limits $= 3\left(\dfrac{3 \text{ x Transaction cost x cash-flow variance}}{4 \text{ Interest rate}}\right)^{1/3}$

The return point $=$ Lower limit $+ \dfrac{\text{Range}}{3}$

As long as the cash balance is between the upper limit and the lower limit, no transaction is made.

At point (x) the firm buys marketable securities. At point Y, the firm sells securities and deposits the cash in the account. (4 marks)

(c)   Contribution per unit $=$ Sh.$(1,000 - 850) =$ Sh.150
Contribution/sales ratio $= \dfrac{150}{1000}$ x 100 $= 15\%$

Increase in sales revenue $= 0.25$ x 240 m $=$ Sh.60m
Increase in contribution and
Profit $= 0.15$ x 60 m $=$ Sh.9m

(i) **Extra investment, if all debtors take two months credit**

Average debtors after sales **Shs.**

Increase ($^2/_{12}$ x 300,000,000) 50,000,000

Less Current average debtors ($^1/_{12}$ x 240,000,000) 20,000,000

Increase in debtors 30,000,000

Increase in stocks 10,000,000

40,000,000

Less increase in creditors (2,000,000)

Net increase in working capital 38,000,000

Return on investment $\frac{9,000,000}{38,000,000}$ x 100 = 23.7% 9,006,000

Reason – accept because 23.7 is higher than 20%

(ii) **If only the new customers take full two month"s credit** **Shs.**

Increase in debtors ($^2/_{12}$ x 60,000,000) 10,000,000

Increase in stock 10,000,000.

20,000,000

Less increase in creditors (2,000,000)

Net increase in working capital 18,000,000

Return on investment $\frac{9,000,000}{18,000,000}$ = 50% cost in figure

Gain in figure

QUESTION FOUR

(a)

Kaka Kuona Ltd. Year ended	30.11.2003 Shs. "000"	30.11.2004 Shs. "000"	30.11.2005 Shs. "000"
Equity earnings:			
No. of shares x EPS			
6,000,000 x 2.5	15,000		
6,000,000 x 2.0		12,000	
6,000,000 x 2.2			13,200
Add: Retained earnings b/f		10,000	4,000
Earnings available	25,000	22,000	11,200
For distribution			
Ordinary divided			
6,000,000 shares x Shs.30	(18,000)	(18,000)	(18,000)
Retained earnings c/f	10,000	4,000	800

From the above calculations, it would appear that the company can only maintain a dividend of Shs.3.0 per share up to 30 November 2004 and not beyond.

(b) If the company makes a bonus issue of 1 share for every 4 held, the addition shares created would be:

$$\frac{6,000,009}{4} = 1,500,000$$

For the year ended 30 November 2004, there would be sufficient earnings to effect the bonus issue.

However, this bonus would issue would have the effect of diluting the EPS as follows:

Earnings(year ended 30 November 2004)   Sh.12,000,000
Total number of shares
After the bonus issue   (6,000,000 + 1,500,000   7,500,000

Therefore EPS = $\frac{12,000,000}{7,500,000}$ = Sh. 1.60

The effect of the dilution of the EPS might be a reduction in the market value of the shares. However the bonus issue might be viewed by the market as having a favourable informational content and the value of the shares might be sustained or even increase. Another aspect to consider is the cash dividend expectations of the shareholders and what effect non-payment of the cash dividend may have on the market value of the shares.

(c) It might be prudent to pay a cash dividend on a reduced scale and perhaps compliment it with a small bonus issue which should not rank for dividend until the year ended 30.11.2005, when the earnings of the company begin to show an improvement. There is empirical evidence showing that firms experiencing liquidity problems or desiring to retain earnings for reinvestment can nevertheless use bonus issue of shares and combine it with some cash dividend to have a positive impact on the aggregate market value of their shares.

QUESTION FIVE

(a)   **Agency relationships**
            Shareholders and management

            In this case the shareholders act as the principal while the management acts as their agents. The shareholders provide equity capital while the managers provide managerial skill.

            Shareholders and creditors
            In this case the shareholders act as the agent and the creditors act as the principal.
            The relationship arises from the fact that though the creditors provide debt capital to the various operations of the firm, they do not make decisions.

            Shareholders and the government
            Any shareholder will rely on the establishment existing in a specific country in undertaking any form of business and reliance will be made on the government services. In this case the government expects the owners to reciprocate by avoiding engagement in activities which would be in conflict with societal expectations. The government will act as the principal and the shareholders will act as the agent who is expected to consider the government interests.

(b)   **(i)Financial intermediation**
            Financial markets promote savings and investment by providing mechanisms by which the financial requirements of lenders (suppliers of funds) and borrowers (users of funds) can be met. Financial institutions (such as pension funds, insurance companies, banks, building societies, unit trusts and specialist investment institutions). These collect funds from savers to lend to their corporate and other customers through the money and capital markets or directly through loans, leasing and other forms of financing.

(ii)   Services that financial intermediaries provide:
The needs of lenders and borrowers rarely match. These differences in requirements between lenders and borrowers mean that there is an important role for financial intermediaries if the financial markets are to operate efficiently.

1. **Re-packaging services**
   Gathering small amounts of savings from a large number of individuals and re-packaging them into larger bundles for lending to business.

2. **Risk reduction**
   Placing small sums from numerous individuals in large, well-diversified investment portfolios, such as unit trust.

3. **Liquidity transformation**
   Bringing together short-term saves and long-term borrowers (e.g. building societies and banks). Borrowing short and lending long is only acceptable where relatively few savers will want to withdraw funds any given time.

4. **Cost reduction**
   Minimizing transaction costs by providing convenient and relatively inexpensive services for linking small savers to larger borrowers.

5. **Financial advice**
   Giving advisory and other services to both lender and borrower.

6. **Funds transmission (provide payment/settlement mechanisms)**

(c)   Operating lease and finance lease
-   Operating leases are short term but finance/capital leases are long term
-   Operating leases are cancelable/revocable but finance leases are not
-   In operating leases maintenance and operating costs are borne by lessor (owner) but not for finance lease.
-   At end of lease period, a lessee is given an option to buy the asset under finance under finance lease unlike under operating lease.

QUESTION SIX

(a)   Bond prices are largely determined by relationship of their coupon rate to the going market rate and the number of years until maturity

- If the market rate for the bond exceeds the coupon rate, the bond will sell below par value. If the market rate is less than the coupon rate, the bond will sell above par value.

- The more distant the maturity date of a bond, the farther below or above par value the price will be given the coupon rate and market rate relationship.

- Economic environment policy

(b)   **The shares could be made more attractive in the following ways:**

- The shares could be „convertible preference shares", allowing the holders to have a chance to convert it into equity shares.

- The shares could be cumulative so that dividends cannot be paid any one year, the preference shareholder will still have the possibility of receiving previous periods dividends when funds are available.

- The company could offer a high rate of dividends on the shares a rate well above the interest yield on fixed interest securities.
- The preference shares could be made redeemable.
- The preference shares could be of the participating kind, entitling the holder to participate in further share of the profits after they have received their fixed percentage
- Dividends rate.

(c) (i)   A P/E ratio is the ratio of the market value of a share to earnings per share: it is often described as the number of years earnings required before an investor recovers the purchase price of a share (on the assumption that annual earnings are constant). The earnings of a company with a high P/E ratio are therefore valued more by investors because they are prepared to wait more years to recover their investment. A high P/E ratio therefore tends to indicate that a company is somehow „more secure". Thus:

A well-established company is likely to have a higher P/E ratio than a company which is newly-quoted on the stock exchange;

A large company with a bigger asset backing is likely to have a higher P/E ratio than a small company with smaller asset base – because assets are regarded as a last resort security in the event of a winding up;

A company may suffer a temporary fall in profits and if investors expect profits to recover, they may be prepared to pay more for a share than current performance would justify - i.e. the P/E ratio may be temporary high;

Investors may expect a company to grow considerably in the next few years, and in anticipation of growth, will pay a higher price for shares now. A company with growth prospects should therefore have a higher P/E ratio than companies where no growth is expected.

Dividend policy affects share prices as much, if not more, than earnings retention rate may therefore have a higher P/E ratio than a company with the same volume of earnings but which pays a lower dividend. Dividend cover may therefore influence the P/E ratio.

(ii) A P/E ratio may be established and used as a method of valuing the shares of an unquoted company, but it is a facility to read too much significance into the P/E ratio or quoted companies. The EPS is determined by the success (or otherwise) of a company"s management, and the share price on the market is determined by many factors (dividends, growth prospects, government policy, the economic situation e.t.c.) of which the EPS is only one. The P/E ratio is therefore an interesting and useful measure of comparison, but it does not of itself possess any inherent significance which is used by investors to fix share prices.

DECEMBER 2012

QUESTION ONE

(a). Credit policy – a policy of managing debtors or accounts receivable of the firm in order to minimize bad debts, debt collection and administration cost and cost of financing debtors (capital tied up in debtors)

- Working capital policy – policy of administration of working capital in particular debtors, cash and stock in order to
 (i) Identify the optimal mix of each component of working capital
 (ii) Improve the firms liquidity position

(b). Factors to consider in establishing effective credit policy
- Administration expenses
- Level of financing debtors
- Amount of discount to give
- Debt collection expenses
- Credit period

(c). **Current Policy**   **New Policy**

	Current Policy		New Policy
Credit sales	12M		12M(1.12) = 13.44M
Bad debts	1%		1.4%
Stock	20% x 12M = 2.4M		205 x 13.44 = 2.688
Credit period	30 Days		(i) 10 Days → 40%
			(ii) 45 Days → 60%
Contribution Margin			
100% - 75%	= 25%		25%

	Existing policy			**New Policy**	
Contribution Margin	25% x 12000 =		3000	25% x 13440 = 3360.00	
Bad Debts	1% x 12000	=	(120)	1.4% x 13440 = (188.16)	
Salary to credit association	—			(260.00)	
Discount cost	—			3% x 13440 x 40% = (161.28)	
Cost of debt financing					
Debtors	$\frac{30}{360}$ x 12000	=	100	(i) $\frac{10}{360}$ x (13440 x 405)=149.33	
Add stock		=	2400	(ii) $\frac{45}{360}$ x (13440 x 60%)=1008	
				Add stock	1157.33
					2688.00
					3845.33
Financing cost	14% x 2400	=	(336)	Financing cost	
Net profit			2544	14% x 3845.33	= (538.35)
					2212.21

Incremental Net loss = 2212.21 – 2544 = - 331.79
  It is not worthwhile to change the credit policy

QUESTION TWO

(a) Features of an ideal investment appraisal method
- Should consider time value of money
- Should utilize cash flows in project appraisal
- Should give absolute decision criterion whether to accept or reject a project
- Should rank independent projects in order of their economic viability
- Should distinguish between acceptable and unacceptable projects if they are mutually exclusive.

(b) -Total operation and repair costs

	New cooler	Sh 1300000 + 350000	= 1650000 p.a
	Old cooler	Sh 1800000 + 500000	= 2300000 p.a
	Annual savings	Sh 2300000 − 1650000	= 650000 p.a

Depreciation

New cooler $\frac{3150000-0}{15 \text{ years}} = 210000 \text{ p.a}$

Old cooler   = 0
Incremental depreciation $\underline{210000}$

Cash flow schedule

Year	1 – 15 p.a
Savings in costs (EBDT)	65000
Less depreciation	(210000)
Incremental EBT	440000
Less tax @ 30%	(132000)
EAT	308000
Add back depreciation	210000
Annual cashflows	518000

Alternatively, annual cashflows = EBDT(1-T) + (Depreciation x Tax rate)
            = 650000 (1 – 0.3) + (21000 x 30%) = 518000 p.a

Annual cashflows	= 51800 p.a for 15 years
P.O @ 10% = 518000 x PVAF 10% 15	= 3,939,900
= 51800 x 7.606	
Less initial capital	= (3,150,000)
Incremental NPV (+ve)	789,900

Replace the old cooler.

QUESTION THREE

(a) Advantages of right issue from the view point of
(i) Issuing company
- Lower floating costs
- Increase equity base of the firms and increase future borrowing capacity
- Legal and administrative procedures are easier e.g. no need for a prospectus

(ii) Shareholders
- No dilution in owner or voting power of the investors
- All shareholders benefit by buying new shares at a discount from the company
- There is a possible increase in future dividend income after generating additional returns from invested capital raised through rights issues

(b) - Cost of equity ke $= \frac{do(1 + g)}{Po} + g$ $= \frac{4.5(1.05)}{50} + 0.05 = 0.1445$

- P.V of cashflows $\frac{945000}{0.1445-0.05}$ = 10,000,000

N/B P.V of a growing annuity is xx $=\dfrac{\text{Expected cashflows}}{ke - g}$

N.P.V of the project = 10M – Sh 8M invested = 2M

N.P.V per share = $\dfrac{\text{Sh 2 million}}{1 \text{ million share}}$ = Sh 2 per share

New price on announcement = Sh 50 + Sh 2   = Sh 52
(cum-right M.P.S)

(ii) 5 existing shares @ Sh 52 = 260
     <u>1</u> new share @ Sh 40   = <u>40</u>
     6 shares   300
     Ex-right M.P.S = $\dfrac{\text{Sh } 300}{6}$ = <u>Sh 50</u>

(iii) Value of a right=cum-right M.P.S–ex-right M.P.S   = Sh 52 – Sh 50 = Sh 2

(iv) Savings in interest changes = 8m x 10%   = 800000
     Less forgive tax shield = 30% x 8000000   (240000)
     Net cash inflows p.a in perpetuity   <u>560000</u>
     This is a constant saving p.a in xx (annuity in xx)

     P.V @ 14.45% = $\dfrac{560000}{0.1445}$ = 3,875,433
     Less initial capital   (8,000,000)
     N.P.V   (4,124,567)

     N.P.V per share = $\dfrac{\text{Sh - 4,124,567}}{1 \text{million shares}}$ = - 4.12

     Cum-right M.P.S = 50 – 4.12 = 45.88

QUESTION FOUR

(a) (i)   ROCE   = $\dfrac{\text{Net profits}}{\text{Capital employed}} = \dfrac{224000}{1800000}$ x 100= 12.44%

(ii)   Turnover of capital   = $\dfrac{\text{Sale}}{\text{Capital employed}} = \dfrac{4000000}{1800000}$ = 2.22 times

(iii)   Operating expense ratio= $\dfrac{\text{Operating expenses}}{\text{Sales}}$ x 100

     Where operating expenses = Sale – Cost of sales – operating profits
          $\dfrac{4000000 – 3000000 – 440000}{4000000}$ x 100   = 14%

(iv)   A/C receivable turnover $= \dfrac{\text{Debtors}}{\text{Cr. Sales}} \times 360 = \dfrac{400000}{4000000} \times 360$ = 36 days

(v)   Dividend yield $=\dfrac{\text{dividends}}{\substack{\text{Mkt value} \\ \text{of equity}}}$ $= \text{D.P.S} = \dfrac{107200}{400000 \times \text{Sh } 5} \times 100$ = 5.36%

(vi)   Price Earnings Ratio $= \dfrac{\text{M.P.S}}{\text{E.P.S}} = \dfrac{\text{Sh } 5}{(22400 \div 400000)} = \dfrac{5}{0.56}$ = 8.92 times

(vii)   Market to Book value ratio $= \dfrac{\text{M.P.S}}{\substack{\text{Book} \\ \text{value per} \\ \text{share}}} = \dfrac{\text{Sh } 5}{(1400000 \div 400000)}$ = 1.43 times

(viii)   Current ratio $= \dfrac{\text{Current assets}}{} = \dfrac{1520000}{}$ = 1.086 times

FINANCIAL
MANAGEMENT

Current liabilities   1400000

(b) | Ratio | Company | Industry |
      |-------|---------|----------|
      | Current ratio | 1.086 | 1.50 |
      | Quick ratio 1.52–1 | 0.371 | 0.80 |

1.40

The firms liquidity position is below the industry average indicating poor working capital management policy

QUESTION FIVE

(a)   (i) The goal of profits maximization involves maximizing the accounting profits by either increasing sales (selling price) or reducing costs

- Profits = Sales revenue – Costs

- In a competitive environment, firms are operating at 100% capacity hence volume/ production cannot be increased thus sales revenue can be increased through increase in selling price

• Shareholding wealth maximization includes maximizing the share price by undertaking all projects yielding the highest net present value (N.P.V)
- The focus is to maximize the P.V of Cashflow where

$$N.P.V = \sum_{t=1}^{n} C_t /(1 + K)^n - I_o$$

Where C_t = cashflows during period t

K = Discounting rate

I_o = Initial capital

(ii) **Limitations of profit maximization goal**

- **It"s vague or unclear: doe**s it refer to gross profits, operating profits, net profits,long term or short term profits e.t.c
- It ignores the time value of money
- It ignores risk and uncertainty of benefits/ profits received in future
- It ignores the plight of other stakeholders such as consumers and employees and only consider the owners
- It is a short term goal e.g. cost reduction or increase in selling price is short term measure

(b)   The capital markets regulator in Kenya is Capital Market Authority which performs the following roles:

• To remove bottlenecks and create awareness for investment in long term securities •
To serve as efficient bridge between the public and private sectors

• Create an environment which will encourage local companies to go public •
To grant approvals and licences to brokers

• To operate a compensation fund to protect investors from financial losses should licenced brokers fail to meet their contractual obligation
• Act as a watchdog for the entire capital market system
• To establish operational rules and regulations on placement of securities
• To implement government programs and policies with respect to the capital markets

(c)   **Importance of**
(i)   **Internal rate of return (I.R.R)**

- A discounted cashflow project appraisal technique which indicates the % yield/ rate of return of an individual project independent of other projects
- It equates N.P.V to zero so that at I.R.R,
  Total P.V of cashflows = Initial capital

Payback period (PBP)

(ii) - A non-discounted cashflow project appraisal technique indicating the number of years within which initial capital can be recovered from cashflows generated by the project
- It indicates the projects liquidity so that the shorter the PBP the better the project

QUESTION SIX

(a) **Limitations of Debt financing**
- Restrictive imposed by debt covenants
- It will result in high bankruptcy and agency costs leading to collapse of the firms
- Restrictions imposed by articles of association
- Availability of quality assets to be used as a collateral to secure debt capital
- Availability of cash to repay interest and principal at maturity
- Gradual increase in cost of debt and cost of equity as gearing increases which increases financial risk
- It will lead to poor credit rating hence inability to secure new capital

(b) (i) **Treasury Bills**
- Short term financial instruments issued by the government to raise short term finance
- Have maturity period of 91 and 182 days
- They are also used to affect government"s monetary policies
- They are issued at discount and their interest rate is usually called risk free rate since they are near riskless investments for buyers/ investors/ lenders to government
- **Treasury bonds –**similar to treasury bills only that they are medium/ longtime debt instruments issued by the government. Their maturity period is usually 1 – 5 years.

(ii) **Complement projects**
- Projects which complement each other so that the performance of one project in terms of cashflows will affect cashflows generated by the other project

Mutually exclusive projects
- Projects which serve the same purpose so that if one is undertaken, the other is rejected
- The projects are substitute or alternative of each other and cannot be undertaken together

(iii) **Stock split**
- Involves splitting or breaking down a stock into specified number of shares but without increasing the nominal or par value of capital hence the par value of a stock has to be reduced by the split factor. Example:
    1 stock @ Sh 50 par value = 5 shares of Sh 10. in this case, the split factor is 5. Similarly, 1 stock @ Sh 100 par value = 8 shares of Sh 12.50.

Stock dividends
- This is also called bonus issue and involves issue of free shares to existing shareholders on prorate basis
- The shares issued are valued at par value and are paid from retained earnings hence bonus issue is simply a conversion of retained earnings to ordinary share capital.

JUNE 2013

QUESTION ONE

(a)   (i) Cum – dividend – the share price indicates the d.p.s declared but the
                    shareholders register is not yet closed. Buyer of shares has right to receive
                    dividends.
                    Ex – dividend – the share price does not include d.p.s declared. The
                    shareholders register has been closed. Buyer has no right to receive dividends.

Cum-div m.p.s		Ex-div m.p.s
Declaration date	Closure of register	Payment date
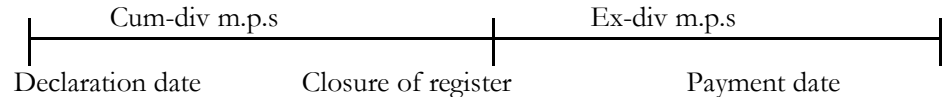
       (ii)   Cum-all – where share price includes information relating to d.p.s, bonus and
                    rights issue declared. The buyer has right to receive dividends, bonus issue and
                    buy shares through a rights issue.
                    Ex-all – the buyer of share does not have the right to receive dividends,
                    bonus and rights issue. The price excludes the rights to these benefits.

(b) Conversion ratio = $\underline{Sh. 1,000}$ = 10 shares per debenture Sh. 100

       At end of yr 4, the shares could be trading @
       (i)   Sh. 90 x 10 shares per debenture = Sh. 900 per debenture
                    P.V. @ 10% = 900 x PV1F10%, 4 = 900 x 0.683 =
                    614.7. Price of debenture = $\underline{Sh. 614.7}$

       (ii)   Sh. 120 x 10 shares = Sh. 1,200 per debenture
                    P.V. @ 10% = 1,200 x 0.683 = $\underline{Sh. 819.6.}$

(c)   Value of a share = P.V of cash subflows.
       P.V of D.P.S = Sh. 8 x PVAF10%, 6 = 8 x 4.355 =   34.84
       P.V of selling price = 120 x PV1F10%, 6 = 120 x 0.564= $\underline{67.68}$
                    Intrinsic value $\underline{102.52}$

QUESTION TWO

(a)   Uses of cost of capital
       −   In determining the optimal mix of debt and equity.
       −   Using in project appraisal in computing N.P.V.
       −   Evaluating managerial performance on ability to generate % return above the
            cost of securing capital.
       −   Dividend decisions – do we retain more profits (pay low dividends) since
            retained profits is a cheaper source of finance compared to issue of shares?
       −   In make lease or buy decisions.

(b)   (i)* Cost of equity, ke

                    $Ke = \dfrac{do(1+g)}{po-fc} = fg$

                    do = 6.60
                    fc = fluatuation costs = 5

$po = 100 - 3$, discount $= 97$

$g = 6\%$

$ke = \dfrac{6.6(1.06)}{97 - 5} + 0.06 = 0.136 = 13.6\%$

* Cost of preference shares, kp

$$Kp = \frac{d.p.s}{po} \times 100 = \frac{8\% \times 10}{10 - (5\% \times 10)} = \frac{0.8}{9.5} \times 100 = 8.42\%$$

* Cost of debt, kd

Par value $=$ Sh. 100

Mkt price/issue price $= 100 - 3$ discount $-$ Sh. 3 f.cost $=$

94 n $= 20$ years

Int $=$ interest $= 8\% \times 100 =$ Sh. 8

$$Kd = \frac{8(1 - 0.3) + (100 - 94)\frac{1}{20}}{(100 + 94)\frac{1}{2}} = \frac{5.9}{97} \times 100 = 6.08\% \approx 6\%$$

*Cost of retained earnings, kr

$$Kr = \frac{do(1 + g)}{po} + g = \frac{6.60(1.06)}{97} + 0.06 = 13.2\%$$

(ii)   Break $=$ $\dfrac{\text{Source with lowest cost (Amount)}}{\text{Weight of the source}}$

                         $=$ $\dfrac{\underline{\text{Sh. 30m long term debt (lowest cost)}}}{\text{Sh. 30m} \div \text{100m}}$

                         $=$ $\dfrac{\underline{\text{Sh. 30m}}}{0.3}$ $=$ $\underline{\text{Sh. 100m}}$

QUESTION THREE

(a)   (i) and (ii) – Refer to solutions of Q4 (C) June 2011

(b)   Operating cash or working capital cycle.

(i)   Debtors collection period

$$\frac{debtors}{credit sales} \times 365 = \frac{4,700}{25,000} \times 365 \quad = \quad 68.62 \text{ days.}$$

(ii)   Stock (R. materials) holding period

$$\frac{R.materials}{R.materials usage} \times 365 = \frac{1,200}{6,500} \times 365 \quad = \quad 67.38 \text{ days}$$

(iii)   Work in progress conversion period

$$\frac{W.I.P}{Cost of prod uction} \times 365 = \frac{1,000}{18,000} \times 365 \quad = \quad 20.28 \text{ days}$$

(iv)   Finished goods conversion period

$$\frac{\text{F.goods}}{\text{cost of sales}} \times 365 = \frac{2,100}{18,000} \times 365 = \quad 42.58 \text{ days.}$$

(v)   Creditors payment period

$$\frac{\text{creditors}}{\text{credit purchases}} \times 365 = \frac{1,400}{6,700} \times 365 = \quad \underline{(76.27 \text{ days})}$$

Operating cash cycle   <u>125.59 days</u>

Operating cash cycle

Debtors collection period + R. M. holding period + W.I.P conversion period + finished goods conversion period – creditors payment period.

QUESTION FOUR

(a)   Project appraisal Kshs. „000"

Year	0	1	2	3	4	5
Inflows	-	800	750	900	1,200	1,100
Outflows	-	(65)	(80)	(50)	(55)	(70)
Depreciation	=	(280)	(280)	(280)	(280)	(280)
Inflow before tax	-	455	390	670	865	750
Less tax @ 30%	-	(136.5)	(117)	(201)	(259.5)	(225)
+ dep. Back	=	280	280	280	280	280
Cashflows	-	598.5	553	749	885.5	805
I_0	(1,400)	-	-	-	-	-
	(1,400)	598.5	553	749	885.5	805
PVIF 12%n	1.000	0.893	0.797	0.712	0.636	0.567
P.V	(1,400)	534.5	440.7	533.3	563.2	456.4

Overall NPV = <u>1,128.1</u>

(b)   (i)

N.P.V = (3.6m x PVAF 13%, 8) – 18m
= (3.6 x 4.799) – 18m = 17.28 – 18 = <u>- 0.72m</u>

        (ii)   If partly debt financed, then
* discounting rate = (13% x 0.5) + (10% x 0.5)(1-0.3) =   10%
* NPV = (3.6 x PVAF10%, 8) – 18m
= (3.6 x 5.335) – 18m = +1.206

The management should change and partly use 50% debt financing to enjoy interest tax shield which reduces the cost of capital and improved returns to shareholders.

QUESTION FIVE

(a)   **Primary Market**
- A market where securities are first issued e.g. a stock exchange.
- The money flows from the investor to the company issuing the securities to raise capital.

Secondary market
- A market where securities are subsequently traded after being issued in the primary market.
- Money flows from buyer of security to the seller of security.
- Secondary market improves the liquidity of securities and assist in their pricing or valuation.

b(i) and (ii) refer to solution of question 5(d) Dec 2003.

QUESTION SIX

(a) **Systematic risk**

This is also called non-diversifiable or market risk. By holding a multiple of assets to form a portfolio, thus risk cannot be eliminated. It is economy-wide risk and affects all firms in the economy. Examples include political instability, inflation, energy crisis (power rationing), increase in interest rates (cost of debt), increase in corporate taxes, industrial strikes etc.

Unsystematic risk

Also called diversifiable risk. Its unique to the company and affects only a single firm. It can be reduced by holding a portfolio. Example include legal suits against the firm, loss of clients and supplies, strike by employees of the firm etc.

(ii) **Conservative credit policy**

A policy of selling goods on credit on highly selective basis to only credit worth customers. It"s meant to reduce bad debts losses and debtors collection costs. It"s applicable where the seller is a monopoly or the product has low profit margin or the product is a premium good.

Liberal credit policy

Selling on credit to as many and even red customers as possible. The aim is to increase sales and profit but it may result in high bad debts, high credit administration costs, high debtors collection costs etc. Usually common where the product has high profit margin, is new in the market, is attaining declining stage in its lifecycle or is out of fashion.

(b)Refer to solutions of Q3 (a) June 2010.

DECEMBER 2013

QUESTION ONE

(a)   (i)Term structure or interest rate

Describes the relationship between interest rate and term (maturity period) of debt instruments. Generally, the longer the maturities, the higher the interest rates and vice verse.
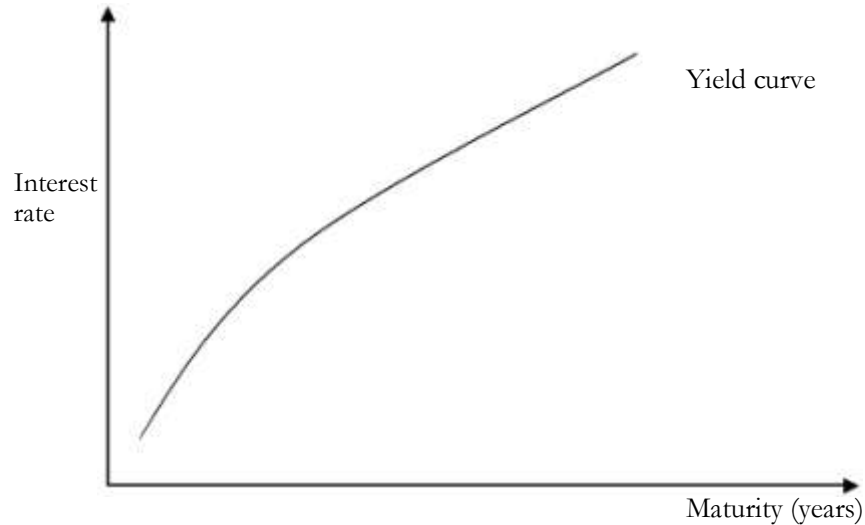
(ii)   Script dividends

This is the same as bonus issue where a firm issues new free shares (each valued at par) from it"s retained earnings instead of paying cash dividends.

(iii)   Share split – involves splitting existing shares into many smaller shares of lower par value.
E.g. – 10m shares @ Shs. 20 par split into 20m shares @ Shs. 10 par.
        - 50m shares @ Shs. 10 par split into 200m shares @ Shs. 2.50 par.

(b)

Capital	% cost	Market value	Weight
Equity	$\dfrac{do(1 + g)}{po} + g = \dfrac{2(1.07)}{20} + 0.07 = 17.7\%$	Shs. 20 x 200,000 = 4,000,000	0.50
Preference share capital	Coupon rate = 10%	1,000,000	0.125
Debt	Coupon rate = 14(1-0.3) = 9.8%	3,000,000	0.375
		8,000,000	1.000

WACC = (17.7 x 0.5) + (10 x 0.125) + (9.8 x 0.375) = 13.775%

(ii)

Capital	% cost	Amt	Weight
Equity	$\dfrac{3(1.07)}{15} + 0.07 =$ 28.4	15/= x 200,000 = 3,000,000	0.34
New debt	15% (1-0.3) = 10.5	2,000,000	0.22
Old debt	14% (1-03) = 9.8	3,000,000	0.33
Pref. s. c	10	1,000,000	0.11
		9,000,000	1.00

WACC = (0.34 x 28.4) + (0.22 x 10.5) + (0.33 x 9.8) + (0.11 x 10) = <u>16.3%</u>

(c)

Year	Expected	DPS	PVIF 18%, A	P.V
2006	3.60 (1.25) =	4.50	0.847	3.8
2007	4.50 (1.20) =	5.40	0.718	3.9
2008	5.40 (1.20) =	6.48	0.609	3.9

2009 - ∞ = $\dfrac{do(1 + g)}{ke - g}$

$= \dfrac{6.48(1.10)}{0.18 - 0.10}$ = 89.1   0.609   <u>54.3</u>

Total   P.V.   <u>65.9</u>

Intrinsic value   =   Kshs. 66.00

QUESTION TWO

(a)   Limitations of ARR
- It ignores uncertainty of accounting profits
- It uses accounting profits instead of cashflows.
- Easy to manipulate by changing accounting policies such as depreciation, stock valuation etc.
- It ignores the time value of money.
- It ignores the magnitude of cashflows
- It doesn"t have a definite decision criteria for a single project.

(b)   (i)
Project Alpha

Year	After tax cash flows	Cumulative cash flows
1	2590 (1-0.3) = 1813	1813
2	2880 (1-0.3) = 2016	3829
3	3050 (1-0.3) = 2135	5964
4	2950 (1-0.3) = 2065	8029

Total capital = 3,800 + 825 = 4,625

Payback period = 2 yrs + $\dfrac{4625 - 3829}{5964 - 3829}$ = <u>2.37 years</u>

Project Beta

Year
1      $4,300(1 - 0.3) = 3010$ 3010
2      $3,290(1 - 0.3) = 2303$ 5313
3      $3,200(1 - 0.3) = 2,240$ 7553
4      $3,700(1 - 0.3) = 2,590$ 8825
5      $4,850(1 - 0.3) = 3395$ 10143
6      $4,420(1 - 0.3) = 3094$

Total outlay = Shs. $8,000 + 825 = 8,825$

$$\text{PBP} = 3 \text{ years} + \left(\frac{8825 - 7553}{10143 - 7553} \right) = 3.49 \text{ years}$$

NB: The examiner did not state the depreciation method and it is assumed that
        effects of depreciation are incorporated in the above cash flows derivations.

(ii)

Year	PVIF 12%, n	Project Alpha cash flows	P.V.	Project Beta Cash flows	P.V.
0	1.000	(4,625)	(4625)	(8825)	(8825)
1	0.893	1813	1618.75	3010	2687.8
2	0.797	2016	1607.14	2303	1835.9
3	0.712	2135	1519.65	2240	1594.38
4	0.636	2065	1312.34	2590	1646.0
5	0.567			3395	1926.4
6	0.507			3094	1567.5
	N.P.V		1432.88		2432.68

NB: assumed working capital of 825,000 is recovered **at end of project"s life and is already**
        included in last years cash flows each option?

(iii)   Accept project Beta since it has a higher NPV. However, since the projects have
         unequal economic lives, they could also be evaluated using annuity equivalent NPV (A.
         E NPV)

$$\text{A. E NPV} = \frac{\text{N.P.V}}{\text{PVAF}_{r\%},A}$$

Project Alpha $= \dfrac{1432.88}{\text{PVAF}_{12\%} 4} = \dfrac{1432.88}{3.037} = 471.81\text{p.a. in } \infty$

Project Beta $= \dfrac{2432.68}{\text{PVAF}_{12\%}6} = \dfrac{2432.68}{4.111} = 591.75 \text{ p.a. in } \infty$

Project Beta is still preferable.

(iv)   Alpha option
        Cost   Shs. 3,800,000
        P.V of lease @ 12% = 1,200,000 x 3.037   Shs. 3,644,400

Total P.V of Alpha = I_0 + NPV = 4,625 + 1,432.88 = 6,057,880

New NPV with lease = 6,057,880 – 3,644,400 = 2,413,480 < 2,432,680 for Beta.

∴ Beta is still preferable.

QUESTION THREE

(a)   Functions of CDS
- Investors can open share accounts
- Immobilization of paper share certificates
- Dematerialization of paper share certificates (no physical certificate needed)
- Electronic clearing, delivery and settlement of securities.

(b)   Functions of central bank
- Advisor to the government
- Lender of last resort
- Banker to the government
- Banker to other commercial banks
- Issuing currency and control money supply.
- Management of public debt
- Foreign exchange administration.
- Licensing of banks and forex bureaux
- Financial controller to commercial banks.

(c)   (i)   D.P.S = $\dfrac{\text{Sh. } 180,000}{72,000 \text{ shares}}$ = Sh. 2.50 p.a in ∞

Value of a share = P.V of D.P.S p.a. in ∞
= $\dfrac{\text{Sh. } 2.50}{0.20}$ = Sh. 12.50

(ii)   Value of the firm before investment   =   P.V. of annuity in ∞
= $\dfrac{180,000}{0.20}$ = 900,000

P.V. of new investment: cash flows = 25% x 720,000 = 180,000 (annuity)
P.V. of cash flows = 180,000 x PVAF $_{20\%}$ 4 = 180,000 x 2.589 = <u>466,020</u>
new value after investment   <u>1,366,020</u>

QUESTION FOUR

(a)   Advantages of bank overdraft
- Lower interest rate
- No security/collateral required by bank
- Flexibility – available when required.

Disadvantages
- Amount of borrowing is restricted.
- Possible change in interest rate without notice.
- Borrower must be an account holder with the bank.
- Legally repayable on demand.

**FINANCIAL
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     −   Guarantees may be need by lender

(b)   Factors determining cost of finance
- The term of finance/period

- Economic conditions prevailing •
Nature and size of business

- Availability of finance •
Effect of taxation
- Security nature
- Growth stage of the company.

(c)   (i)   Contribution margin   =   s. price − variable costs
                                        = $25 - 10 - 9.5 - 3 = 2.5$

% contribution = $\dfrac{25}{25}$ = 10%

Category	C		D
New sales $\frac{2}{5}$ x 10m =	4m	$\frac{3}{5}$ x10m	6m
Addition contribution @ 10%	0.4m		0.6m
	400,000		600,000

   (ii)

Category	C	D
Incremental sales	4,000,000	6,000,000
% Bad debts	5%	9.5%
Additional bad debts	200,000	570,000

   (iii)   Net profits
All sales assumed to be on credit

Category	C	D
Additional contribution	400,000	600,000
Bad debt additional	(200,000)	(570,000)
Additional debtors financing cost		
$\frac{30}{365}$ x4,000,000x11.5%	(37,810)	-
$\frac{40}{365}$ x6,000,000x11.5%	-	(75,616)
Net profit (loss)	162,190	(45,616)

QUESTION FIVE

(a)   Benefits of integration of financial markets
- Cross boarder sales opportunities.
- Diversified sources of capital at lower cost
- Improved capital mobility and reduced investment risk.
- Inflow of FDI due to use of technology.
- Debt-equity swaps where firm"s can change. Existing bank loans and bonds into equity through integrated stock markets.

- Increased merger and acquisition activities hence economies of scale.
- Derived benefits of cross boarder listing of firms.

(b) (i) WACC
- The overall or composite cost of existing capital from various sources based on % cost and market value weights.
- MCC – overall or composite cost of new or additional capital based on % cost of new capital and weight based on amount from each source relative to total new capital.

(ii)

Finance lease	Operating lease
- Long term (at least 90% of asset life).	- short-term
- Not cancelable	- revocable
- Operating, maintenance and insurance costs borne by lessee.	- borne by the owner (lessor) of asset.
- Option to buy asset at end of lease period.	- No option.

QUESTION SIX

(a) Stock index – indicator of average change in prices of shares quoted on stock market.
- a base year is selected and a sample shares/companies are selected in computing the index.

(b) Problems in preparing the index
- Treatment of bonus issue and stock split.
- Selection of shares to include in the index.
- Incorporation of newly quoted firms.
- Determine the base year
- Different methods of computing index e.g. value and price weighted, arithmetic and geometric mean etc.
- Frequency of stating the changes in the index.

(c) Applications of security market indices
- Calculation of both factor in determining systematic risk.
- Indicator of economic performance and investors" behavior pattern.
- Benchmark for evaluating performance of professional portfolio managers.
- Prediction of future share price movements using technical or chartist analysis.
- To create and monitor an index fund.

Part III: Comprehensive Mock Examinations

Questions – Mocks

QUESTION ONE

Within a Financial Management context, discuss the problems that might exist in the relationships (sometimes referred to as agency relationships) between:

1.   Shareholders and managers, and
2.   Shareholders and creditors.

QUESTION TWO

The Chuma Ngumu Company needs to finance a seasonal rise in inventories of Sh.4 million. The funds are needed for six months. The company is considering using the following possibilities to finance the inventories:

i)   A warehouse loan from a finance company. The terms are 18 per cent annualized with an 80% advance against the value of the inventory. The warehousing costs are Sh.350,000 for the six-month period. The residual financing requirement which is Sh.4 million 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 fortieth day without adverse effect.

ii)   A floating lien arrangement from the supplier of the inventory at an effective interest rate of 24 per cent. The supplier will advance the full value of the inventory.

iii)   A bank loan from the company"s bank for Sh.4 million. The bank can lend at the rateof 22%. In addition, a 10% compensating balance will be required which otherwise would not be maintained by the company.

iv)   Establish a one year line of credit. The commitment fees is 5% of the total borrowings. The interest rate is 17% p.a.

Explain
Which is the cheapest option for the company?   **(20 marks)**

QUESTION THREE

The following financial statements relate to the ABC Company:

Assets	Shs.	Liabilities & Net worth	Shs.
Cash	28,500	Trade creditors	116,250
Debtors	270,000	Notes payable (9%)	54,000
Stock	649,500	Other current liabilities	100,500
Total current assets	948,800	Long term debt (10%)	300,000
Net fixed assets	285,750	Net worth	663,000
	1,233,750		1,233,750

Income Statement for the year ended 31 March 1995

	Shs.
Sales	1,972,500
Less cost of sales	1,368,000
Gross profit	604,500
Selling and administration expenses	498,750
Earning before interest and tax	105,750
Interest expense	34,500
	71,250
Estimated taxation (40%)	28,500
Earnings after interest and tax	42,750

Required:
a) Calculate:

i)	Inventory turnover ratio;	(3 marks)
ii)	Times interest earned ratio;	(3 marks)
iii)	Total assets turnover;	(3 marks)
iv)	Net profit margin	(3 marks)

(Note: Round your ratios to one decimal place)

b) The ABC Company operates in an industry whose norms are as follows:

Ratio	Industry Norm
Inventory turnover	6.2 times
Times interest earned ratio	5.3 times
Total assets turnover	2.2 times
Net profit margin	3%

Required:

Comment on the revelation made by the ratios you have computed in part (a) above when compared with the industry average.

QUESTION FOUR

Assume that on 31 December 2001 you are provided with the following capital structure of Hatilcure Ltd which is optimal.

	Shs. "000"
Long term debt (16%)	135,000
Ordinary share capital (Sh.10 par)	90,000
Retained earnings	75,000
	300,000

The company has total assets amounting to sh.360 million but this figure is expected to rise to Sh.500 million by the end of 2002. You are also informed that:

1. Any new equity shares sold will net 90% after flotation costs.
2. For the year just ended the company paid Sh.3.00 in dividends per share.
3. New 16% debt can be raised at par through the stock exchange.
4. The past and expected earnings growth rate is 10%
5. The current dividend yield is 12%
6. The company"s dividend payout ratio of 50% shall be maintained in 2002.
7. Assume marginal at rate of 40%

8.   The company"s capital structure is optimal

Required:
a)   Company"s net amount to the capital budget to be financed with equity if 85% of the asset expansion is included in the 2002 capital budget.   (3 marks)
b)   How many shares must be sold to raise the required equity capital? Round your figure to the nearest thousand.   (8 marks)
c)   What is the firm"s marginal cost of capital? Show full workings.   (10 marks)

QUESTION FIVE

The Weka Company Ltd. has been considering the criteria that must be met before a capital expenditure proposal can be included in the capital expenditure programme. The screening criteria established by management are as follows:

1.   No project should involve a net commitment of funds for more than four years.
2.   Accepted proposals must offer a time adjusted or discounted rate of return at least equal to the estimated cost of capital. Present estimates are that cost of capital as 15 percent per annum after tax.
3.   Accepted proposals should average over the life time, an unadjusted rate of return on assets employed (calculated in the conventional accounting method) at least equal to the average rate of return on total assets shown by the statutory financial statements included in the annual report of the company.

A proposal to purchase a new lathe machine is to be subjected to these initial screening processes. The machine will cost Shs. 2,200,000 and has an estimated useful life of five years at the end of which the disposal value will be zero. Sales revenue to be generated by the new machine is estimated as follows:

Year	Revenue (Sh."000")
1	1,320
2	1,440
3	1,560
4	1,600
5	1,500

Additional operating costs are estimated to be Shs. 700,000 per annum. Tax rates may be assumed to be 35% payable in the year in which revenue is received. For taxation purpose the machine is to be written off as a fixed annual rate of 20% on cost.

The financial accounting statements issued by the company in recent years shows that profits after tax have averaged 18% on total assets.

Required:
Present a report which will indicate to management whether or not the proposal to purchase the lathe machine meets each of the selection criteria. **(19 marks)**

MOCK 2

QUESTION ONE

a) The valuation of ordinary shares is more complicated than the valuation of bonds and preference shares. Explain the factors that complicate the valuation of ordinary shares.

(6 marks)

b) The most recent financial data for the Rare Watts disclose the following:

Dividend per share	Sh.3.00
Expected annual dividend growth rate	6 percent
Current required rate of return	15 percent

The company is considering a variety of proposals in order to redirect the firm"s activities. The following four alternatives have been suggested:

1. Do nothing in which case the key financial variables will remain unchanged.
2. Invest in venture that will increase the dividend growth rate to 7% and lower the required rate of return to 14%.
3. Eliminate an unprofitable product line. The action will increase the dividend growth rate to 8% and raise the required rate of return to 17%.
4. Acquire a subsidiary operation from another company. This action will increase the dividend growth rate to 9% and required rate of return to 18%.

Required:

For each of the proposed actions, determine the resulting impact price and recommend the best alternative. (14 marks)

QUESTION TWO

The most recent balance sheet for Supremo Ltd is presented here below:

Supremo Ltd Balance Sheet – 30 November 1995

	Sh. „000"		Sh. „000"
Current Assets	8,800	Trade creditors	2,200
Fixed Assets (net)	13,200	Accrued expenses	2,200
		Current liabilities	4,400
		Long-term debt	8,800
		Ordinary shares	2,200
		Retained earnings	6,600
	22,000		22,000

The company is about to embark on an advertising campaign which is expected to raise sales from their present level of Sh.27.5 million to Sh.38.5 million by the end of next financial year. The firm is presently operating at full capacity and will have to increase its investment in both current and fixed assets to support the projected level of sales. It is estimated that both categories of assets will rise in direct proportion to the projected increase in sales.

For the year just ended, the firm"s net profits were 6% of the year"s sales but are expected to rise to 7% of projected sales. To help support its anticipated growth in assets needs next year the firm has suspended plans to pay cash dividends to its shareholders. In years past, a dividend of Sh.6.60 per share has been paid annually.

Supremo"s trade creditors and accrued expenses are expected to vary directly with sales. Inaddition, notes payable will be used to supply the added funds to finance next years operations that are not forthcoming from other sources.

Required:
a)   i)Estimate the amount of additional funds to be raised through notes payable.

(4 marks)
        ii)   What one fundamental assumption have you made in making your estimate?
(2 marks)
b)   Prepare pro-forma balance sheet of Supremo Ltd. on 30 November 1996.   (13 marks)
c)   i)Calculate and compare Supremo Ltd."s current and debt ratios before and after
             growth in sales.   (4 marks)
        ii)   What was the effect of the expanded sales on these two dimensions of
             Supremo"s financial condition?   (2 marks)
                                                                 (Total: 25 marks)

QUESTION THREE

The Kitale Maize Mills is contemplating the purchase of a new high-speed grinder to replace an existing one. The existing grinder was purchased two years ago at an installed cost of Sh.300,000. The grinder was estimated to have an economic life of 5 years but a critical analysis of its performance now shows it is usable for the next five years with no resale value.

The new grinder would cost Sh.525,000 and require Sh.25,000 in installation costs. It has a five year usable life. The existing grinder can currently be sold for Sh.350,000 without incurring any removal costs. To support the increased business resulting from purchase of the new grinder, accounts receivable would increase by Sh.200,000, inventories by Sh.150,000 and trade creditors by Sh.290,000. At the end of 5 years the new grinder would be sold to net Sh.145,000 after removal costs and before taxes. The company provides for 40% taxes on ordinary income. The estimated profit before depreciation and taxes over the five years for both machines are given as follows:

Year	Existing grinder Shs.	New grinder Shs.
1	130,000	215,000
2	120,000	215,000
3	110,000	215,000
4	100,000	215,000
5	90,000	215,000

The company uses straight line method of depreciation for both machines.

Required:
a)   Calculate the initial investment associated with the replacement of the existing grinder
         with the new one. Show your full workings.   (6 marks)
b)   Determine the incremental operating cash flows associated with the proposed grinder
         replacement.   (14 marks)
c)   Calculate the terminal cash flow expected from the proposed grinder replacement.
(2 marks)
                                                                 (Total: 22 marks)

QUESTION FOUR

Swale Ltd. wants to raise Shs. 15,000,000 in additional funds through a rights offering. The following statements were prepared just before the planned rights offerings:

Balance Sheet as at 31 March 1994

	Sh."000"		Sh."000"
Current assets	45,000	Current liabilities	17,000
Fixed assets	30,000	Long-term debt (25%)	18,000
		Ordinary shares (sh.10 par)	15,000
	_____	Retained Earnings	25,000
	75,000		75,000

Income Statement for the year ended 31 March 1994

	Sh."000"
Earnings before interest and taxes	13,500
Interest	4,500
Earnings before tax	9,000
Taxation (40%)	3,600
Net Income	5,400

Additional information:
i) The company had a price-earnings ratio of 7.5 at the time of the rights offering. Its dividend payout ratio is 40%.
ii) The proposed rights offering subscription price per share is Sh.15.
iii) No change is expected in the return on total assets or dividend payout ratio after the rights offering.

Required:
a) How many rights are required to buy one new share? (3 marks)
b) Calculate the return on total assets. (2 marks)
c) Calculate the following immediately before the rights issue:
   - Dividend per share; (2 marks)
   - Market price per share. (2 marks)
d) Calculate the dividend per share and market price per share one year after the rights of offering and state whether you would recommend the rights offering. (Give reasons) (8 marks)
e) **Prepare the company"s balance shee**t immediately after the rights offering under (c) above. (7 marks)

QUESTION FIVE

Love Ltd is considering acquiring Beautiful Ltd. For the past six years, the profits of Beautiful Ltd. has been as follows:

Year	1996	1997	1998	1999	2000	2001
Profits Sh."M"	85	93	107	113	113	119

Love Ltd expects to pay a DPS of Sh.3.20. The current MPS is Sh.40. The growth in dividends will be matched with the growth in earnings of Beautiful Ltd. once acquired. The future expected profits p.a. (equal to the average of past profits) will also grow a rate equal to past profits growth rate. Love Ltd is an all equity firm. Beautiful Ltd has 50 million ordinary shares.

Required:
a) Compute the cost of equity of Love Ltd. (6 marks)

b)   Using the cost of equity computed in (a) above, determine the maximum price with
      Love Ltd should pay for each share of Beautiful Ltd to acquire it.   (10 marks)
c)   What is the significance of valuation of securities.   (4 marks)

MOCK 3

QUESTION ONE

a)   Why do different sources of finance have different costs?   (8 marks)
b)   What are the advantages of having a farmers" bank compared with an ordinary commercial bank in the provision of services to farmers?   (12 marks)

(Total: 20 marks)

QUESTION TWO

a)   With reference to capital market, define the following terms:
      i)   Contango operation   (2 marks)
      ii)   Backwardation   (2 marks)
      iii)   Stags   (2 marks)
      iv)   Role of investment banker   (4 marks)

b)   Mr. Castro uses a 20% hatch system of timing when to invest in a stock market. In a given year, the top of a given share was Sh.150 and its bottom was Sh.90. During the year, the company paid an interim DPS of Sh.1.50 and a final DPS of Sh.4.50. Determine the % return on investment. (4 marks)

QUESTION THREE

The following information is provided in respect to the affairs of Pote Limited which prepares its account on the calendar year basis.

	1995 Shs.	1994 Shs.
Sales	600,000	500,000
Purchases	400,000	350,000
Cost of goods sold	360,000	330,000
Stock at 31 December	100,000	60,000
Debtors at 31 December	98,000	102,000
Creditors at 31 December	40,000	25,000
Total assets at 31 December	300,000	185,000

Stock and debtors at 1 January 1994 amounted to Sh.70,000 and Sh.98,000 respectively.

Required:
a)   Calculate the rate of stock turnover expressed:
      i)   as a ratio;   (3 marks)
      ii)   in days, for each of the years 1994 and 1995.   (3 marks)

b)   Calculate the rate of collection of debtors, in days, for each of the years 1994 and 1995.
    (3 marks)

c)   Calculate the rate of payment to creditors, in days, for each year 1994 and 1995.
    (3 marks)

d)   Show the cash operating cycle for each year.   (6 marks)
e)   Comment on the results.   (6 marks)

QUESTION FOUR

The Altman formula for prediction of bankruptcy is given as follows:

Z score = $1.2X_1 + 1.4X_2 + 3.3X_3 + 1X_4 + 0.6X_5$

Where:	X_1	=	Working capital/Total assets
	X_2	=	Retained earnings/Total assets
	X_3	=	Earnings before interest and tax/Total assets
	X_4	=	Sales/Total assets
	X_5	=	Market value of Equity/Liabilities

In this model, a Z-score of 2.7 or more indicates non-failure and a Z-score of 1.8 or less indicates failure.
You are provided with the following information in respect of four listed companies.

	Working capital	Retained earnings	Earnings before interest and tax	Market value of equity	Total assets	Liabilities	Sales
	Sh."000"	**Sh."000"**	**Sh."000"**	**Sh."000"**	**Sh."000"**	**Sh."000"**	**Sh."000"**
A Ltd	4,000	60,000	10,000	20,000	200,000	120,000	200,000
B Ltd	2,000	20,000	0	5,000	100,000	80,000	120,000
C Ltd	6,000	20,000	-30,000	48,000	800,000	740,000	900,000
D Ltd.	40,000	200,000	30,000	100,000	1,800,000	1,000,000	2,000,000

Required:

a)   The Z-Score for each of the companies. Comment on the results obtained. (10 marks)
b)   It has been suggested that other ratios ought to be incorporated into Altman"s bankruptcy prediction model. What is your opinion on this?   (5 marks)
c)   List the indicators of possible business failure.   (5 marks)

QUESTION FIVE

a)   What are the features of a sound appraisal technique?   (6 marks)
b)   What practical problems are faced by finance managers in capital budgeting decisions?
                                                                        (6 marks)

c)   XYZ Ltd has six independent projects whose financial data is as follows:

Project	Economic life	Annual cash flows	Initial capital
A	5	59,666	175,000
B	3	153,307	300,000
C	4	78,809	160,000
D	3	175,208	340,000
E	6	66,067	260,000
F	4	35,026	60,000

All the projects are divisible. The firm"s policy is to utilize only retained profits tofinance its projects. Currently the firm has only KSh.800,000 to finance the projects.
Show how the available capital should be invested. The firm"s cost of capital is 15%.

MOCK 4

QUESTION ONE

Using illustrative examples, explain the payback period and accounting rate of return methods of projects appraisal and explain the advantages and disadvantages of each method.   (20 marks)

QUESTION TWO

(a)   Why does ordinary share capital have a high cost relative to debt capital?   (6 marks)
(b)   Identify the various methods of issuing new ordinary shares to shareholders.(15 marks)
(Total: 21 marks)

QUESTION THREE

The following six have been submitted for inclusion in 1998 capital expenditure budget for Limuru Ltd.

	Year	A Sh.	B Sh.	C Sh.	D Sh.	E Sh.	F Sh.
Investment	0(1998)	250,000	250,000	500,000	500,000	500,000	125,000
	1	0	50,000	175,000	0	12,500	57,500
	2	25,000	50,000	175,000	0	37,500	50,000
	3	50,000	50,000	175,000	0	75,000	25,000
	4	50,000	50,000	175,000	0	125,000	25,000
	5	50,000	50,000	175,000	0	125,000	
Per year	6 - 9	50,000	50,000		500,000	125,000	
	10	50,000	50,000			125,000	
Per year	11 – 15	50,000	50,000				
Internal rate of return		14%	?	?	?	12.6%	12.0%

Required:

(a)   Rates of return (to the nearest half percent) for projects B, C and D and a ranking of all projects in descending order.   (6 marks)
(b)   Compute the payback reciprocal for projects B and C.   (4 marks)
(c)   Compute the N.P.V of each project using 16% as discount rate and rank all projects.
(10 marks)
(Total: 20 marks)

QUESTION FOUR

(a)   State the alternative dividend policies a firm may adopt.
(b)   Identify 6 factors a firm must consider when designing dividend policies.

QUESTION FIVE

XYZ Ltd is intending to raise capital to finance a new project. The current M.P.S is Sh.43 cum-div of year 2001 declared but not yet paid. For the part 5 years, the company has paid the following stream of dividends.

Year	1997	1998	1999	2000	2001
D.P.S	1.90	2.25	2.60	2.60	3.00

The existing capital structure of the firm is as follows:

	Shs. M
Ordinary share capital	40
Retained earnings	35
12% Debenture Sh.100 par	25
	100

The debentures are currently selling at Sh.95 ex-interest. The corporate tax rate is 30%.

Required:

(a)   Distinguish between cum-div and ex-div M.P.S.   (4 marks)

(b)   Compute the ex-div M.P.S   (2 marks)

(c)   Compute the overall cost of capital. Use dividend growth model to determine the cost
       of equity.   (9 marks)

(d)   The company wants to raise additional Sh.20 million as
       follows: 50% from retained earnings
       30% from issue of debentures at the current market value
       20% from issue of new ordinary shares with 10% floatation costs

       (i)   Compute the number of ordinary shares to issue to raise the amount required.
                                                                           (2 marks)

       (ii)   Compute the marginal cost of capital.   (6 marks)

MOCK 5

QUESTION ONE

Mr. Hesabu Kazi is considering giving up his paid employment and going into business on his own account. He is considering buying a quarry pit with a "life" of about 35 years. To purchasethis business, he would have to pay £2,375,000 now. Mr. Kazi wishes to retire in 20 years" time.

He predicts that the net cash operating receipts from this business will be £625,000 per annum for the first 15 years and £500,000 per annum for the last 5 years. He thinks that the business could be sold at the end of the 20 year period for £750,000. Additionally, he estimates that certain capital replacements and improvements would be necessary and this should amount to £50,000 per annum for the first 5 years; £75,000 per annum for the next 5 years, £100,000 per annum for the next 7 years and nothing for the last three years. This expenditure would be incurred at the start.

Mr. Kazi has excluded any compensation to himself from the above data. If he should purchase the business, however, he would have to leave his present job in which he earns £250,000 a year. To finance the purchase of this business, he would have to realize his present savings which are invested to yield a return of 10 per cent before tax, and have a comparable risk factor.

Required:
(a) Advise Mr. Kazi as to whether or not it is advisable to purchase the business in the light of the information given.
   Ignore Income Tax. (16 marks)
(b) Is there any additional information which you would have liked to have available to you before giving advise to Mr. Kazi? (4 marks)
   (Total: 20 marks)

QUESTION TWO

(a) Describe the characteristics of long term capital investment decisions. (4 marks)

(b) BCB Company is a manufacturer of bricks and concrete blocks. The company is considering replacing part of the current manual labour force by purchasing a small tractor with a forklift for use in loading bricks and concrete blocks. The purchase price would be Sh.570,000. The tractor will have an economic life of 5 years but would require a Sh.20,000 overhaul at the end of 3 years. After 5 years the tractor could be sold for Sh.110,000.

The company estimates it will cost Sh.250,000 per year to operate the tractor. It will, however, save Sh.130,000 annually on labour cost. Because of increase in handling efficiency, losses caused by breakages will be cut by Sh.220,000 per year. Sales will also go up by Sh.450,000. The new sales level is expected to be maintained throughout the tractor"s life. Assume the company"s gross margin ratio is 40%, corporate tax rate 30%, and cost of capital 16%. Also assume straight-line method of depreciation.

Required:
Determine the NPV of the project and state whether the tractor should be purchased.
(13 marks)

(c)   Identify 3 circumstances under which NPV and IRR will give conflicting results for mutually exclusive projects.   (3 marks)

(Total: 20 marks)

QUESTION THREE

United Steel has just been reorganized to produce industrial machinery. The company is in the process of establishing a financial policy and the following two alternative plans have been suggested.

Plan X: 2,000,000 ordinary shares of Sh.10 each.
Sh.12,000,000 long term loan at 18% per annum.

Plan Y: 2,500,000 ordinary shares at Sh.10 each
Sh.7,000,000 long term loan at 18% per annum.

The founders of United Steel have projected the following Earnings Before Interest and Taxes (EBIT).

Economic Phase	Probability	EBIT Sh."000"
A	0.2	16,000
B	0.6	28,000
C	0.2	40,000

The company"s marginal tax rate is 40%.

Required:
(a)   (i)Calculate the expected Earnings Per Share (EPS) for each financial plan.

                                                           (10 marks)
      (ii)   Which financial plan should be accepted? Why?   (2 marks)

(b)   Calculate the level of EBIT where the EPS are equal for the two plans.   (8 marks)

(Total: 20 marks)

QUESTION FOUR

Mecal Modern Company is a manufacturer of a popular range of items. The "industry" characteristics, on the average, are as shown below:

- Average collection period is 60 days and the inventory turnover is 5 times (on net sales)
- Credit sales are 50% of net sales
- Current ratio is 2:1. Of the current assets, 25% is cash.
- Debt is 30% of total assets
- Rate of return on total assets average 6.6667% and the average turnover on total assets is 2 times.

Mecal"s current assets are shown as Sh.16,000,000 and the reported net profits (after tax) were Sh.1,200,000. Retained profits were Sh.2,500,000 inclusive of current year.

Required:
Prepare a proforma balance sheet for Mecal Company showing as much detail as possible. (Clearly state any assumptions made). **(20 marks)**

QUESTION FIVE

Part (a) and (b) should be treated independently.

(a)   Sunny Ltd is evaluating whether to replace an old printing machine with a new one. The following information relate to the two machines:

Old Machine

Original cost	Sh.825,000
Estimated life	10 years
Estimated salvage value	Sh.55,000
Depreciation method	Straight-line
Book value	Sh.385,000
Market value	Sh.165,000

New Machine

Cost	Sh.1,100,000
Estimated life	5 years
Estimated salvage value	Sh.110,000
Depreciation method	Straight-line
Savings in production	Sh.143,000 per year

The company"s marginal tax rate is 40% and cost of capital 14%.

Required:

Using the net present value (NPV) method, analyze the replacement decision and state whether or not the old machine should be replaced. (10 marks)

(b)   You are trying to evaluate the economics of purchasing a van for your rental business. You expect the van to provide an annual after tax cash benefit of Sh.240,000 and that you can sell it for Sh.160,000 after six years. All the funds for purchasing the van will come from your savings which are currently earning 14% return after taxes.

Required:

(a)   Calculate the maximum price you would be willing to pay to acquire the van.

(4 marks)

(b)   Assume that you are of good credit standing and if you choose you could borrow the money to purchase the van instead of using your savings. You have two alternative sources from which to borrow.

Alternative A:

From a finance company. The finance company requires you to make six annual installments of Sh.244,787.15 each covering both interest and principal.

Alternative B:

From an insurance company. The insurance company requires you to make a lump sum payment of Shs. 1,880,971.90 covering both interest and principal at the end of six years.

Which alternative would you opt for? (6 marks)

(Total: 20 marks)

Answers – Mocks

MOCK 1

QUESTION ONE

Agency relationship exists when one or more persons (the principal) hire another person (the agent) to perform some tasks on his or their behalf. The principal will delegate some decision-making authority to the agent. The problems of agency relationships occur when there is a conflict of interest (or lack of goal congruence) between the principal and the agent. The relationship can be explained as follows:

a)   **Shareholders and Managers**

The relationship between shareholder and manager may clearly be described as one of agency. This is so because shareholders appoint managers to run the company on their behalf.

Unless managers are themselves major shareholders, their interests may not coincide with those of the firm"s owners. Examples of possible conflicts include:

i)   Managers might not work industriously to maximize shareholders wealth if they feel that they will not fairly share in the benefits of their labour.

ii)   There might be little incentive for managers to undertake significant creative activities including looking for profitable new projects (ventures) or developing new technology.

iii) Managers might pursue projects which they find personally satisfying at the expense of other projects offering a better return to the company.

iv)   Managers might award themselves high salaries (or executive packages) than what the shareholders would consider to be justified.

In order to try to ensure that managers act in the best interests of shareholders, the shareholders incur agency costs such as:

i)   Cost of monitoring management activities (e.g. audit fee)

ii)   Cost of structuring corporate organization to minimize undesirable management actions (e.g. internal controls).

iii) Pegging managers remuneration to the success of the firm. Such remuneration schemes might include:

   - Profit based salaries and bonuses

   - Share option schemes

   - Performance shares

iv)   In addition, the threat of firing can also be seen as an incentive for efficient management as is the possibility of job loss if a company"s share price through management action is low and a take-over occurs.

(b)   Refer to solution for **Q6 (a) December 2001.**

QUESTION TWO

Since the money is required for six months, the costs should be based on 6 months period (half a year)

i)   Use of warehouse loan from a finance company.

Credit terms 2/10 net 30 means a 2% discount is granted for payment within 10 days otherwise pay on 30th day without any discount. Since payment can be delayed to 40th day, then credit terms are 2/10 net 40% cost p.a. =

$$\frac{\text{Discount}}{100\%\text{-discount}} \times \frac{360 \text{ days}}{\text{Payment - discount}} = \frac{2}{100\%\text{-}2\%} \times \frac{360}{40-10} = 24.5\%$$
Period   period

Analysis of costs
Warehousing fees   350,000

Interest = 80% x 4,000,000 x 18% x $\frac{6}{12}$ 288,000

Foregone discount cost = 20% x 400,000 x 24.5% x $\frac{6}{12}$ =   98,000

Total cost   736,000

ii) Floating lien from a supplier

Interest charges =   4,000,000 x 24% p.a. x $\frac{6}{12}$ =   736,000

iii) Bank loan
In presence of compensating balance, the effective annual interest rate =

$$= \frac{\text{Nominal interest rate}}{1 - \text{Compensating balance (\%)}}$$

$$= \frac{22\%}{1 - 0.10} = 24.44\%$$

Interest charges = 4,000,000 x 24.44% x $\frac{6}{12}$ =   488,800

iv) Line of credit

Interest 17% x 4,000,000 x $\frac{6}{12}$ =   340,000
Commitment fees 5% x 4,000,000   =   200,000
Total cost   =   540,000

The cheapest source is the floating lien from the supplier.

QUESTION THREE

a)   i)   Inventory turnover ratio = $\frac{\text{Cost of sales}}{\text{Average stock (closing stock)}}$

$$= \frac{1,368,000}{649,500} = 2.1 \text{ times}$$

ii) Times interest earned ratio   = $\frac{\text{Operating profit EBIT)}}{\text{Interest charges}}$

$$= \quad \frac{105{,}750}{34{,}500} = 3.1 \text{ times}$$

iii)   Total assets turnover   = $\dfrac{\text{Sales}}{\text{Total Assets}}$

$$= \quad \frac{1{,}972{,}500}{1{,}233{,}750} = 1.6 \text{ times}$$

iv)   Net profit margin   = $\dfrac{\text{Net profit (profit after tax)}}{\text{Sales}} \times 100$

$$= \quad \frac{42{,}750}{1{,}972{,}500} \times 100 = \quad 2.2\%$$

i.e 2.2% is the net profit margin
97.8% is the cost of sales.

b)   Industrial analysis
-     Industrial analysis involve comparison of firm performance with the industrial average performance or norms.
-     This analysis can only be carried out for a given year. i.e

Times series/trend analysis
-     This involve analysis of the performance of a given firm over time i.e ratio of different year of a given Co. are compared in order to establish whether the performance is improving or declining and in case a weakness is detected e.g decline in liquidity ratio, this will force the management to take a corrective action.
-     When commenting on industrial and trend analysis the following 4 critical points should be highlighted:

    a)   In case of individual ratio classify them in their immediate category e.g when commenting on TIER indicate this in a gearing ratio.

        When commenting on a given category of ratio identify the ratios in that category e.g if required to comment on liquidity position identify the liquidity ratio from the ratios computed.

    b)   State the observation made e.g total asset turnover is declining or increasing over time (in case of trend analysis) or the ratio is lower or higher than the industrial norms (in case of industrial analysis).

    c)   State the reason for observation i.e. explain why the ratio is declining or increasing.

    d)   State the implication for observation e.g decline in liquidity ratio means that the ability of the firm to meet in short term financial obligation is declining over time.

Ratio	ABC Ltd.	Industrial Norm
Inventory Turnover	2.1	6.2

Times interest earned ratio	3.1	5.3
Total Asset turnover	1.6	2.2
Net profit margin	2.2%	3%

i) Inventory turnover
- This is a turnover or efficiency ratio
- The rate is lower than industrial norm
- A low stock turnover could be attributed to:
  - i) Charging higher price than competition
  - ii) Maintenance of slow moving/obsolete goods
  - iii) Where the firm is selling strictly on cash while competitors are selling on credit.

- The firm is not efficiently utilizing its inventory to generate sales revenue.

ii) Times interest earned ratio (TIER)
- This is a gearing ratio
- It is lower than industrial average or norm
- This could be due to low operating profit due to high operating expenses or high interest charges due to high level of gearing/debt capital.
- This implies that the firm is using a relatively high level of fixed charge capital to finance the acquisition of assets.

iii) Total asset turnover
- This is efficiency ratio/activity
- Lower than industrial average
- This could be due to holding large non-operational or fully depreciated asset which are not utilized by the firms.
- This implies inefficiency in utilization of total assets to generate sales revenue.

iv) Net profit margin
- Is a profitability ratio
- Lower than industrial norm
- This could be due to low level of net profit of the firm relative to sales revenue.
- This implies that the firm has a low ability to control its cost of sales, operating & financing expenses e.g in case of ABC Ltd selling & admin expenses are equal to 82.5% of gross profit

$$\frac{498,750}{604,500} \times 100$$

- Also the cost of sales expense is 69.4% of sales i.e

$$\frac{1,368,000}{1,972,000} \times 100$$

FINANCIAL MANAGEMENT

QUESTION FOUR

a)   Amount of capital to raise = 500M – 360M = 140M

Amount to raise in 1996 = 85% x 140M = 119M

Since the existing capital structure is optimal, the Sh.119M would be raised as follows:

Ordinary share capital   = $\dfrac{90M}{300M}$ x119M = 35.70M

Long term debt   = $\dfrac{135M}{300M}$ x119M = 53.55M

Retained earnings   = $\dfrac{73M}{300M}$ x119M = 29.75M

Amount to raise for equity   =   35.70M + 29.75M = <u>65.45M</u>

b)   Determine the market price per

share Dividend yield = 12% = 0.12

DPS   =   Sh.3.00

DY   = $\dfrac{DPS}{MPS}$

∴ MPS = $\dfrac{DPS}{DY}$ = $\dfrac{3.00}{0.12}$ =   <u>Sh.25</u>

MPS net of floatation cost = Sh.25 x 90% = 22.50

Amount to raise from issue of ordinary shares = Sh.35,700,000
Issue price per share = Sh.22.50

Number of shares to issue $\dfrac{Sh.35,700,000}{Sh.22.50}$

=   1,586,667

≈   1,587,000 shares

c)   Compute the marginal cost of each source of finance
         Marginal cost of equity

$$K_e = \frac{d_0(1+g)}{P_0 - f_c} + g = \frac{3(1.10)}{22.50} + 0.10 = 0.247 \approx 24.7\%$$

Cost of retained earnings K_r (no floatation costs)

$$K_r = \frac{d_0(1+g)}{P_0} + g = \frac{3(1.10)}{25} + 0.10 = 0.232 = 23.2\%$$

Cost of retained debt K_d

Since new debentures can be sold at par, then:

K_d = coupon rate = 16%

$K_d(1-T) = 16\%(1-0.4) = \underline{9.6\%}$

Amount to raise =
119M

53.55M from debentures

35.70M from ordinary shares

29.75M from retained earnings
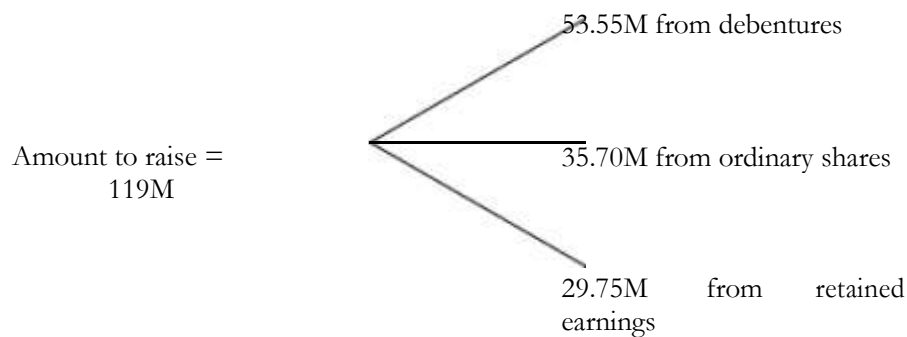
Marginal weighted cost of capital (MWCC)

$$MWCC = 9.6\%\left(\frac{53.55}{119}\right) + 24.7\%\left(\frac{35.7}{119}\right) + 23.2\left(\frac{29.75}{119}\right)$$

$= \quad 4.32 + 7.41 + 5.80 = \underline{17.53\%}$

QUESTION FIVE

Depreciation p.a. = 20% x 2,200,000 = 440,000

Prepare a cash flow schedule:

Year	1	2	3	4	5
	Sh."000"	Sh."000"	Sh."000"	Sh."000"	Sh."000"
Sales	1,320	1,440	1,560	1,600	1,500
Less operating costs	700	700	700	700	700
EBPT	620	740	860	900	800
Less depreciation	440	440	440	440	440
EBT	180	300	420	460	360
Less tax @ 35%	63	105	147	161	126
EAT = accounting profits	117	195	273	299	234
Add back depreciation	440	440	440	440	440
Cash flows	557	635	713	739	674

Screening Criteria
1.   The net commitment of funds should not exceed 4 years i.e the payback period should at least be 4 years. Therefore, compute the payback period.

Year	Cash flows	Accumulated Cash flows
1	557	557
2	635	1,192
3	713	1,905
4	739	2,644
5	674	3,318

The initial capital of Sh.2,200,000 is recovered after year 3. After year 3 (during year 4) a total of Sh.295,000 (2,200 – 1,905) is required out of the total year 4 cash flows of Sh.739,000. Therefore payback period = $3\text{yrs} + \dfrac{295}{739} = 3.4\text{yrs}$

2. The time adjusted or discounted rate of return is the I.R.R of the project. Discount the cash flows at 15% cost of capital given:

Recall discounting factor (PVIF) = $(1+r)^{-n} = \dfrac{1}{(1+r)^n}$

Year	Cash flows „000"	PVIF₁₅%	P.V	PVIF₁₄%,n	P.V.
1	557	0.870	484.59	0.877	488.49
2	635	0.756	480.06	0.770	488.95
3	713	0.658	469.15	0.675	481.28
4	739	0.572	422.71	0.592	437.49
5	674	0.497	334.98	0.519	349.81
Total P.V.			2,191.49		2,246.30
Less initial capital			2,200.00		2,200.00
N.P.V.			(8.51)		46.30

Since the NPV is negative at 15% cost of capital rediscount the cash flows again at a lower rate, say 14%, to get a positive NPV.

NPV @ 14%   =   46.3
NPV @ I.R.R. =   0
NPV @ 15%   =   -8.51

$$\text{I.R.R.} = 14\% + \frac{46.3 - 0}{46.3 - (^-8.51)}\left(15\% - 14\%\right)$$

$$= 14\% + \frac{46.3}{54.81}(1\%) = \underline{14.85\%}$$

3. The unadjusted rate of return on assets employed is the accounting rate of return.

$$\text{ARR} = \frac{\text{Average accounting profits (EAT)}}{\text{Average investment}} \times 100$$

$$\text{Average accounting profits} = \frac{117 + 195 + 273 + 299 + 234}{5\text{yrs}}$$

	=	223.6 p.a.
Average investment	=	(Initial capital + Salvage value)½
	=	(2,200 + 0)½
	=	1,100

$$\text{A.R.R} = \frac{223.6}{1,100} \times 100 = \underline{20.3\%}$$

SOLUTION

MOCK 2

QUESTION ONE

a)   Valuation of ordinary shares is more complicated than valuation of bonds
        and preference shares because of:

-       Uncertainty of dividend unlike interest charges and preference dividends which
        are certain
-       The data for valuation of ordinary shares is historical which may not reflect
        future expectations.
-       A constant stream of dividends per share is assume
-       The growth rate is assumed constant and is computed from past dividends.
-       The cost of equity/required rate of return on equity is assumed to be constant
        though it changes over time.

b)   i) If they do nothing:

d_0 = Shs.3.00

g = 6%

K_e = 15%

$$P_0 = \frac{d_0(1+g)}{K_e - g} = \frac{3(1.06)}{0.15 - 0.06} = \text{Sh.35.33}$$

ii)   Invest in a venture

d_0 = Shs.3.00

g = 7%

K_e = 14%

$$P_0 = \frac{d_0(1+g)}{K_e - g} = \frac{3(1.07)}{0.14 - 0.07} = \text{Sh.45.86}$$

iii)   Eliminate unprofitable product line

d_0 = Shs.3.00

g = 8%

K_e = 17%

$$P_0 = \frac{d_0(1+g)}{K_e - g} = \frac{3(1.08)}{0.17 - 0.08} = \text{Sh.36.00}$$

iv)   Acquire a subsidiary

d_0 = Shs.3.00

g = 9%

K_e = 18%

$$P_0 = \frac{d_0(1+g)}{K_e - g} = \frac{3(1.09)}{0.18 - 0.09} = \text{Sh.36.33}$$

The best alternative is to invest in a venture since this option has the highest impact
price of Sh.45.86.

QUESTION TWO

Since the firm has suspended payment of cash dividend then all net profit shall be retained earnings.

a) Identify item in balance sheet that vary with sales.

     i) Current Assets = $\dfrac{8,800}{27,500}$ x100 = 32%

     ii) Fixed Assets = $\dfrac{13,200}{27,500}$ x100 = 48%

     iii) Trade creditor = $\dfrac{2,200}{27,500}$ x100=8%

     iv) Accrued expense $\dfrac{2,200}{27,500}$ x100=8%

b)

					Sh."000"
Increase in sales	=	38.5M – 27.5M = 11M	=		11,000
Increase in C.A	=	% sales x increase in sales			
	=	$\dfrac{32}{100}$ x11,000,000	=		3,520
Increase in F.A.	=	% of sales x increase in sales			
	=	$\dfrac{48}{100}$ x11,000			5,280
		Total			8,800

Less: Spontaneous source of finance
     Trade creditors = 8% x 11   (880)
     Accrued expenses = 8% x 11   (880)
Less: R. earning internal source of finance
     Net profit – Net profit margin x forecasted sales
         7% x 38,500   =   2,695
     Less: dividend (retained earnings)   =   -   (2,695)
External financial needs (notes payable)   4,345

Fundamental Assumption
3. There is no inflation

Proforma balance sheet as at 30th November 1996

	Shs. "000"
Current Assets - % of sales x projected sales = 32% x 85.5	12,320
Fixed Assets - % of sales x projected sales = 48% x 38.5	18,480
Total Assets	30,800
Trade creditors = % of sales x projected = 8% x 38.5	3,080
Accrued expenses = % of sales x projected = 8% of 38.5	3,080
Long term debt	8,800
Ordinary shares	2,200
Retained earnings, 6600 + 2695	9,295
External borrowing – Notes payable	4,345
	30,800

c)   i) Ratio

		Before sales growth	After sales growth
Current Ratio =	$\dfrac{C.A}{C.L}$	$\dfrac{8,800}{2,200 + 2,200}$	$\dfrac{12,320}{4345 + 3080 + 3080}$
		2 times	= 1.17

ii)   Debt ratio $= \dfrac{Total debt}{Total Asset}$ $\dfrac{2,200 + 2,200 + 8,800}{22,000}$ x100 $\dfrac{3080 + 3080 + 4345 + 8800}{30,800}$

$$= 0.6 = 60\% \qquad\qquad = 62.7\%$$

After the growth in sales there was increase in current liabilities due to external financing using notes payable. This tend to decrease current ratio and increase in debt ratio of the firm i.e after growth in sales 62.7% of total assets were financed with short term and long term liabilities while the remaining 37.3% were financed with owners equity.

QUESTION THREE

a)   Net Book Value of old asset

     NBV   =   Cost – Accumulated depreciation

$$= \quad \left(\dfrac{300,000}{5yr\ s} \right) \quad = \quad 180,000$$

The NBV at end of year 2 will be depreciated over 5 years remaining.

	Shs.
Cost	525,000
Add installation cost	25,000
Depreciable cost	550,000
Add increase in net working capital	
200,000 + 150,000 – 290,000	60,000
Less market value of old asset	(350,000)
Add tax on gain on disposal of asset	
Market value 350,000	
NBV (180,000)	
Gain on disposal 170,000	
Tax = 40% x 170,000	68,000
Total incremental initial capital	328,000

b)   Increamental depreciation is as follows:

Depreciation p.a.   - new asset $= \dfrac{550,000 - 145,000}{5 \text{yr s}} \quad = \quad 81,000$

Depreciation p.a.   - old asset $= \dfrac{180,000 - 0}{5 \text{yr s}} \quad = \quad \underline{36,000}$

$\underline{45,000}$ p.a.

	1	2	3	4	5
	Sh."000"	Sh."000"	Sh."000"	Sh."000"	Sh."000"
EBDT – new asset	215	215	215	215	215
EBDT – old asset	130	120	110	100	90
Increamental EBDT	85	95	105	115	125
Less depreciation	45	45	45	45	45
Increamental EBT	40	50	60	70	80
Less tax @ 40%	16	20	24	28	32
Increamental EAT	24	30	36	42	48
Add depreciation	45	45	45	45	45
Increamental operating cash flow	69	75	81	87	93

c)   Terminal cash flows consist of:

Increamental net working capital   60,000
Increamental salvage value
      Salvage value – New = 145,000(1-0.4)   =   87,000
Less salvage value–old   -   87,000
       Total terminal cash flows   147,000

QUESTION FOUR

(a) New share to issue $=\dfrac{\text{Amount to raise}}{\text{Issue price}} = \dfrac{15,000,000}{25} = 600,000$ new shares

$\dfrac{1,500,000}{10} = 1,500,000$ shares

Existing ordinary shares $= \dfrac{1,500,000}{10} = 1,500,000$ shares

Number of rights $= \dfrac{\text{Existing shares}}{\text{New shares}}$

Number of rights $= \dfrac{1,500,000}{600,000} = 2.5$ rights/shares

b)   Return on total assets or return on investments

$\dfrac{\text{Net profit after tax}}{\text{Total Assets}} = \dfrac{5,400,000}{75,000,000} \times 100\% \quad = 7.2\%$

c)
Earnings after tax	5,400,000	
Less dividends at 40%	(2,160,000)	
Retained earnings	3,240,000	

$DPS = \dfrac{\text{Dividend paid}}{\text{Number of ordinary shares}} = \dfrac{2,160,000}{1,500,000} = \text{Shs.1.44}$

$EPS = \dfrac{\text{Earnings after tax}}{\text{Number of ordinary shares}} = \dfrac{5,400,000}{1,500,000} = \text{Shs.3.6}$

$P/E = \dfrac{MPS}{EPS}$

∴ MPS = P/E x EPS

= 7.5 x 3.6   =   Shs.27

d)   After rights issue, number of ordinary shares = (1,500,000 + 600,000) = 2,100,000.

Amount to raise is Shs.15,000,000 which is invested at 7.2% p.a. (R.O.I).

Additional earnings after tax = $15,000,000 x \dfrac{7.3}{100}$ = 1,080,000

Current earnings after tax	5,400,000	
Add new earnings during the year	1,080,000	
Total earnings after tax	6,480,000	
Less dividends at 40%	(2,592,000)	
Retained earnings	3,888,000	

Number of ordinary shareholders   2,100,000

EPS are year after $\dfrac{6,480,000}{2,100,000}$ = Shs.3.09

Assuming P/E ratio remained at 7.5 times during the year MPS

MPS   =   EPS x P/E ratio

MPS   =   3.09 x 7.5   =   Shs.23.175

Market value of equity before rights issue = No. of ordinary shares x MPS before rights issue

     1,500,000 x 27   =   40,500,000

Market value of equity one year later =   No. of ordinary shares x MPS one year after
                                                  One year later.

                2,100,000 x 23.175   =   48,667,500

The rights issue was worth it since it led to increased market value or wealth of the shareholders, total earnings and total dividends.

Despite the decrease in MPS, EPS and DPS, shareholders have more shares hence increased wealth and earnings.

e)

Issue price	=	25
Par value	=	10
Share premium per share	=	15

Cash raised = 15,000,000 (current asset)

New shares issued 600,000.

Share premium	=	600,000 x 15	=	Shs.9,000,000
Ordinary share capital	=	600,000 x 10	=	Shs.6,000,000

Balance Sheet

	Shs. "000"
Current assets	45,000
Cash raised	15,000
Fixed assets	30,000
	90,000
Financed by:	
Current liabilities	17,000
Long term debt	18,000
Ordinary share capital (15,000 + 6,000)	21,000
Share premium	9,000
Retained earnings	25,000
	90,000

QUESTION FIVE

a) Compute growth

$$85(1 + g)^5 = 119$$

$$(1 + g)^5 = \frac{119}{85} = 1.4$$

$$1 + g = \sqrt[5]{1.4}$$

$$1 + g = 1.07 = g = 7\%$$

$$K_e = \frac{d_o(1+g)}{P_o} + g$$

MANAGEMENT

$$= \frac{3.20}{40} + 0.07 = 0.15 = 15\%$$

b)   Average profits = $\frac{630}{6 \text{ yrs}}$ =   105 p.a. in ∞

        g = 7%

        r = 15%

        Value of firm   = $\frac{105}{0.15 - 0.07}$ =   <u>1,312.5M</u>

        P_0 = $\frac{1,312.5M}{50M \text{ shares}}$ =   <u>Sh.26.25</u>

c)   Significance of valuation of securities
-          for mergers and acquisitions
-          Using a share as a security for a loan
-          liquidation of a firm
-          getting quoted on NSE
-          Sale of a firm as a going concern
-          Sale of a subsidiary to a MBO team or 3rd party.

SOLUTION

MOCK 3

QUESTION ONE

a)   Why different sources of capital have different costs.

   Different sources have different costs because of:

-   Duration of lending e.g. long term loans will earn a higher interest rate than short term loans due to the maturity risk premium.
-   Size of loan – usually, large borrowers will be charged higher interest rates than their small borrowers.
-   Uncertainty of returns e.g interest charges are fixed hence lower cost of debt compared to dividends which are uncertain thus higher cost of equity.
-   Different types of financial assets some borrowers e.g building societies will offer higher yields to depositors to attract them. Their bonds have high interest rate.
-   Perceived risk by lenders:
-   Borrowers who are perceived by different market segments to be high risk will have to incur higher cost of capital.
-   Need to make profit margin:
-   Depending on the source of funds for lending, different sources of capital will add a % profit margin thus different cost of capital.

b)   Advantages of having a farmer"s bank:
   -   No need for a collateral in securing a loan. Only a guarantor may be required.
   -   Fewer formalities in borrowing of loans.
   -   Minimum deposits will be low according to the savings ability of farmers.
   -   Other standing charges such as ledger fees withdrawal and deposit fees etc will be eliminated.
   -   It would meet the unique finance needs of the farmers including giving advise on how to invest the money borrowed.
   -   Lower cost of borrowing compared to the punitive interest rate charged by banks.

QUESTION TWO

a)   i) Contango – interest paid by the investor for money borrowed by a stock market to buy shares for the investor.
   ii)   Backwardation – Commission paid to the lender of shares where a dealer "borrowed" shares which he had to deliver immediately.
   iii)   Stages:
      -   Speculatory who buy new securities believing they are undervalued.
      -   They sell them when price rises to make a gain.

iv) Role of investment bankers
- Advising on issue price of new shares
- Underwriting
- Financing decisions of the firm
- Portfolio management
- Defensive mechanism in case of acquisition
- Valuation of securities

b) Selling price
=Sh.150 x (1-0.2) =Sh.120 i.e 20% below the highest price

Buying price
= Sh.90 x (1 + 0.2) =Sh.108 i.e 20% above the highest price
Capital gains = Sh.12 per share
Interim and final DPS = 1.50 + 4.50 = Sh. 6
Total returns from the share Sh.18

Investment = B.P = Sh.108

% return on investment = $\frac{18}{108}$ x100=16.7%

QUESTION THREE

a) i) Stock Turnover = $\frac{\text{Cost of sales}}{\text{Average stock}}$

	1994	**1995**
Stock turnover =	$\frac{330}{(70 + 60)\frac{1}{2}}$ = 5.0times	$\frac{360}{(60 + 100)\frac{1}{2}}$ = 4.5times

ii) Stock holding period = $\frac{360 \text{ days}}{\text{Stock turnover}}$

	1994	**1995**
Stock holding period =	$\frac{360}{5}$ = 72days	$\frac{360}{4.5}$ = 80days

b) Debtors collection period = $\frac{\text{Average debtors x 360 days}}{\text{Credit sales}}$

	1994	**1995**
Average collection period =	$\frac{(98 +102)\frac{1}{2}}{500}$ x360=90days	$\frac{(102 + 98)\frac{1}{2}}{600}$ x360=60days

c) Creditors payment period = $\frac{\text{Average creditors x 360 days}}{\text{Credit purchases}}$

	1994	**1995**
Creditors payment period =	$\frac{25}{350}$ x360=25days	$\frac{40}{400}$ x360=36days

d) Cash operating cycle (also called working capital cycle) is the time that elapsed between payment of raw material purchases on credit and receipt of cash on goods sold on credit.

Operating cycle
= Stock holding period + Debtors collection period – Creditors payment period.
| 1994 | = | 72 + 90 – 25 | = | 137 days |
| 1995 | = | 90 + 60 – 36 | = | 104 days |

e) The cash operating/working capital cycle declined by 33 days due to:

♦ Significant decline in debtors collection period by 30 days. This means the firm adopted a tight credit period which led to decline in stock turnover in 1995.

♦ Increase in creditors payment period which means the firm has to pay supplier after 36 days (1995) compared to 25 days in 1994.

♦ The decrease in cash operating cycle is meant to improve the liquidity of the firm.

QUESTION FOUR

a) Computations of Z-score for each company.

$$A\ Ltd. = 1.2\left(\frac{4}{200}\right) + 1.4\left(\frac{60}{200}\right) + 3.3\left(\frac{10}{200}\right) + 1\left(\frac{200}{200}\right) + 0.6\left(\frac{20}{120}\right) \qquad = \qquad 1.709$$

$$B\ Ltd = 1.2\left(\frac{2}{100}\right) + 1.4\left(\frac{20}{100}\right) + 3.3\left(\frac{0}{100}\right) + 1\left(\frac{120}{100}\right) + 0.6\left(\frac{5}{80}\right) = \qquad 1.541$$

$$C\ Ltd = 1.2\left(\frac{6}{800}\right) + 1.4\left(\frac{20}{800}\right) + 3.3\left(\frac{-30}{800}\right) + 1\left(\frac{900}{800}\right) + 0.6\left(\frac{48}{740}\right) \qquad = \qquad 1.084$$

$$D\ Ltd = 1.2\left(\frac{40}{1800}\right) + 1.4\left(\frac{200}{1,800}\right) + 3.3\left(\frac{30}{1,800}\right) + 1\left(\frac{2,000}{1,800}\right) + 0.6\left(\frac{100}{1,000}\right) \qquad = \qquad 1.408$$

All firms are at the blink of bankruptcy since their Z-score is less than 1.8. Company C has the lowest Z-score and company A the highest Z-score.

b) Other important ratios to include are:
   i) Current ratio
   ii) Acid test ratio
   iii) Interest cover ratio
   iv) Debt ratio

Ratios (i) and (ii) will indicate liquidity which ratio (iv) is vital for measuring gearing.

c) Indicators of possible business failure are:
   - Declining time interest earned ratio (interest cover)
   - Huge contingent liabilities
   - Low liquidity ratios and negative net working capital
   - Increasing reliance on leasing rather than purchase of tangible assets
   - Cash flow statement indicates declining cash balances

-        Low z-score values as shown by Altman model.
-        High labour turnover and declining profits.

QUESTION FIVE

a)   The features of a sound project appraisal technique are:

  ➢   It should consider the time value of money by discounting the cash flows.
  ➢   It should give a direct decision criteria on when to accept or reject a project.
  ➢   It should rank independent projects in order of their economic viability
  ➢   It should distinguish between acceptance and unacceptable projects which are mutually exclusive.
  ➢   It should generally be applicable to any conceivable project available.

b)   Practical problems faced by finance managers in capital budgeting:

  ➢   Lack of information on viable investment opportunities.
  ➢   Lack of adequate capital to undertake all viable independent projects.
  ➢   Uncertainty of future cash flows or benefits including methods of assessing risk of a project.
  ➢   The appropriate project appraisal technique to use
  ➢   Effects of inflation, changes in cost of capital and their qualitative information.

c) Compute the present value and profitability index (P.I) for each project.

PROJECT	INITIAL CAPITAL	PRESENT VALUE	NPV	P.I	RANK
A	175,000	59,666 x PVAF15%,5 = (59666 x 3.352)	= 175,000	200,000 / 175,000 = 1.143	5
B	300,000	153,307 x PVAF15%,4 = 153307 x 2.283	= 350,000	350,000 / 300,000 = 1.167	4
C	160,000	78,809 x PVAF15%,3 = 78808 x 2.855	= 225,000	225,000 / 160,000 = 1.406	2

D	340,000	175,208 x PVAF15%,3 = 175208 x 2.283	= 400,000	400,000 / 340,000 = 1.17	3
E	260,000	66,067 x PVAF15%,6 = 66067 x 3.784	= 250,000	250,000 / 260,000 = 0.961	6
F	60,000	35,026 x PVAF15%,4 = 35,026 x 2.855	= 100,000	100,000 / 60,000 = 1.667	1

Project E should be rejected since its P.I is less than 1.0. The available capital is then allocated on the basis of P.I ranking.

Rank	Project	Initial Capital
1	F	60,000
2	C	160,000
3	D	340,000
4	B	240,000
		800,000

The first 3 projects requires Sh.560,000 (60,000 + 160,000 + 340,000). To exhaust sh.800,000 we require Sh.240,000 from next best project i.e. project B. therefore, the portion of project B to undertake:

= $\frac{Sh.240,000}{Sh.300,000}$ = 0.8

MOCK 4

QUESTION ONE

Payback Period

The payback period is the time taken in years for a project to recover its initial investment. The shorter the payback period the more valuable to investment is.

Example 1

Consider a project with the following cash flows:

	Shs.
Y0	(15,000)
Y1	2,000
Y2	8,000
Y3	5,000
Y4	7,000

The payback period is clearly 3 years since the cash inflows for that period equal the initial outlay of £15,000.

There are two types of decisions which may have to be made with regard to new investments, these are:
(a)   Accept/reject decisions
(b)   Ranking decisions

Accept/reject decisions arise in the case of independent projects about which decisions can bemade without reference to other investments.

Ranking decisions arise when one must choose which is the most preferable of severalalternative decisions. Such projects are called **mutually exclusive projects**.

The payback period unfortunately does not give any clear indication of whether to accept or reject a new project. The payback period calculated has to be compared with some sort of managerial target; if it is shorter than this target the project should be accepted and vice versa. However, there is no accepted method of calculating the target, therefore choosing it will be subject to some arbitrariness. A ranking decision can be undertaken with the payback measure; the project with the shortest payback period being preferable.

Disadvantages and Advantages of the Payback Period

(b)   Disadvantages
(i)   Cash flows after the payback period are ignored. If in Example 1 the cash flow in year 4 was Sh.20,000 this would clearly make the project more desirable. The payback period, however, would not reflect this, still being only 3 years.
(ii)   It ignores the timing of cash flows. The payback period is unaffected by the timing of cash flows within the payback period. Clearly the earlier they arise the more valuable will be the project.
(iii)   No clear decision is given in an accept/reject situation.

The above clearly mean that the payback period has a limited use in terms of measuring the acceptability of projects. It is, however, the most popular technique although it is often used in conjunction with other methods of investment appraisal.

(b)   Advantages

(i)   It is simple to calculate. It is of particular advantage to a small company which may not have people with the skills associated with the more complicated techniques.

(ii)   It gives an indication of liquidity, showing the period for which a company finds itself out of pocket because of the project.

(iii)   It gives a measure of risk. Cash flows which arise further in the future will be less certain, therefore projects with a shorter payback period will generally be less risky.

Accounting Rate of Return (ARR)

The accounting rate of return measure is based upon accounting profits, not cash flows, and is similar to the measure of the return on capital employed used in assessing a company"s overall profitability.

The calculation is:

ARR   =   Average annual accounting profits
                          Initial investment

The calculation is also often shown with the denominator being the average investment.

Example 2

A project with an initial expenditure of £400,000 will produce the following profits, after deducting depreciation of:

	£
Year 1	30,000
Year 2	70,000
Year 3	80,000
Year 4	50,000

Average annual profits: $\dfrac{30,000 + 70,000 + 80,000 + 50,000}{4}$ =   £57,500

ARR   = $\dfrac{57,500}{400,000}$ =   14.4%

The accounting rate of return method is similar to the payback period method because both techniques require that an arbitrary decision be made concerning the target rate of return or payback period. The accounting rate of return method will enable us to rank mutually exclusive projects. Those with a higher rate of return will be preferable.

Advantages and Disadvantages of the accounting Rate of Return

(a)   Advantages

(i)   The calculation is simple.

(ii) It is concerned with profits and it is profits, not cash flows, which shareholders see reported in annual accounts.

(iii) It gives a percentage measure which may be more understandable than other measures of return.

(b) Disadvantages

(i) It is a crude averaging method which does not take into account the timing of cash flows.

(ii) It is based upon profits, not cash flows. Shareholders" wealth is determined by cash; non-cash items such as accruals, provisions and depreciation will not be relevant. The apparent contradiction between this and the second advantage listed above will be discussed when we consider the Stock Exchange and share prices.

QUESTION TWO

(a) Ordinary share capital have a high cost relative to debt capital because:
- There is high uncertainty of dividends income unlike interest which is fixed.
- Dividends are not tax allowable unlike interest which provide tax shield.
- Owners of the provide take most risk by providing equity capital hence they require a higher rate of return compared to other investors.
- Share prices are highly volatile and makes the value of equity uncertain and cost of equity high.

(b) The various methods of issuing ordinary shares to shareholders are:
- Bonus issue/stock dividend where they receive free shares each valued at par value instead of cash dividends
- Rights issue – shareholders buy additional shares at a price slightly lower than the current M.P.S in this case, the firm wants to raise new equity capital.
- Prospectus issue – where a firm issue/sell shares to members of the public for public subscription. Buyers of shares become shareholders or owners of the firm.
- Private placement – shares are not offered to public but to a small number of institutional investors such as insurance companies, mutual funds etc. This reduces floatation cost and speed up the raising of capital.
- Offer for sale by tender – The seller/Firm fixes a minimum price and subscribers/potential shareholders are invited to tender for shares at prices equal to or higher than the minimum price. Shares are allotted on the basis of the highest price tendered.

QUESTION THREE

(a) I.R.R. for projects B, C and D

Project B

This has 15 years economic life and an annuity of Shs.

50,000. Therefore 50 x PVAF$_{r\%}$,15 = 250

$$PVAF_{r\%},15 \quad = \quad \frac{250}{50} = 5$$

From PVAF table at 15 period, a PVAF of 5.000 falls between 18% and 20%

Rate	PVAF
18%	5.092
I.R.R	5.000
20%	4.676

$$\text{I.R.R} = 18 + \left(\frac{5.092 - 5.000}{5.092 - 4.676} \right)(20 - 18) \quad = \quad 18 + 0.44 = 18.44\%$$

Project C

$$175 \times \text{PVAF}_{r\%,5} = 500$$

$$\text{PVAF}_{r\%,5} = \frac{500}{175} = 2.875$$

At 5 periods, a PVAF of 2.875 falls between 20% and 24%.

Rate	PVAF
20%	2.991
I.R.R	2.875
22%	2.864

$$\text{I.R.R} = 20 + \left(\frac{2.991 - 2.875}{2.991 - 2.864} \right)(22 - 20) \quad = \quad 20 + 1.83 = 21.83\%$$

Project D

Computation of I.R.R of a project whose cash flows do not depict any annuity pattern.

We use the weighted average method e.g Project D does not depict any annuity pattern.

Steps:

1. Compute the weighted average cash flows

Year	Cash flows	Weights	Weighted cash flows
1	0	9	0
2	0	8	0
3	0	7	0
4	0	6	0
5	0	5	0
6	500	4	2000
7	500	3	1500
8	500	2	1000
9	500	1	500
		45	5000

Weighted cash inflows:

$$= \quad \frac{\Sigma \text{Weighted cash flows}}{\text{Sum of the weights}}$$

$$= \quad \frac{5,000,000}{45} = 111,111$$

2.   Compute the payback using the weighted average cash flows

$$\text{Payback} = \quad \frac{500,000}{111,111} = 4.5$$

3.   Determine the approximate rate from the PVIFA tables NPV/16%.

4.   Computation of NPV at 16%

500,000 x [4.607 – 3.274] =-500,000   666,500
                                                                                    (500,000)
                                                                                    166,500

NPV/22%
   500,000 x [3.786 – 2.864]   =   461,000
                                                                                    (500,000)
                                                                                    (39,000)

NPV/22%
   500,000 x [3.786 – 2.864]   =   520,000
                                                                                    (500,000)
                                                                                    20,000

Compute IRR

$$2\% + \frac{20000}{59000} \times 2\%$$

=   20.678
=   20.5%

Project	IRR	Ranking
A	14%	4
B	18.5	3
C	22.0	1
D	20.5	2
E	12.6	5
F	12.0	6

(b)   Payback reciprocals

Project   B   C

Payback period	$\dfrac{250}{50} = 5$	$\dfrac{500}{175} = 2.857$

Payback reciprocal	$\dfrac{1}{5} = 20\%$	$\dfrac{1}{2.857} = 35\%$

Note: The longer the project life (n>is) the better the payback reciprocals as anestimation of the IRR of a project whose cash flows depict the perfect annuity pattern.

(c)   To compute NPV if rate of return is 16% for all project:

Project A n = 15	**NPV**
0 x 0.862	0
25000 x 0.743	18575
50000 x (5.575-2.605)	19890
-250000	(250,000)
	(32,925)

Project B n = 15	**NPV**
50000 x 5.575 – 250,000	28750

Project C n = 15	**NPV**
175000 x 3.274 – 500000	72950

Project D n = 9yrs	**NPV**
500000 x (4.607 – 3.274) – 500000	166,500

Project E n = 10 yrs	**NPV**
12500 x 0.862	10,775
37500 x 0.743	27,862.5
75000 x 0.641	48,075.0
125000 x [4.833 – 2.246]	323,375
	(500,000.00)
NPV	(89,912.5)

Project F n = 4 yrs	**NPV**
57500 x 0.862	49565
50000 x 0.743	37150
25000 x 0.641	16025
25000 x 0.552	13800
	(125000)
	(8460)

MANAGEMENT

Project	NPV	Ranking	IRR	Ranking
A	(32950)	5	14%	4
B	28750	3	18.5%	3
C	72950	2	22%	1
D	166500	1	20.5%	2
E	(89912.5)	6	12.6%	5
F	(8460)	4	12.0%	6

QUESTION FOUR

(a) The alternative dividend policies are:

     (i)   Fixed or constant dividend per share policy:

         -      The firm pays a fixed dividend per share irrespective of how much profits is available. This creates certainty for shareholders but put pressure on the firm to pay the same dividends even when the profits are low. The earnings per share (EPS) will be fluctuating over time.

         -      The D.P.S could be increased to a new level if it looks reasonably sustainable.

     (ii)   Fixed payout ratio policy:

         -      A fixed proportion of equity earnings will be paid out as dividends meaning that the dividends shall fluctuate over time creating high uncertainty for shareholders. This could adversely affect the market price per share (MPS) as well as the required rate of return.

         -      The E.P.S and D.P.S will fluctuate over time.

     (iii)   A low fixed D.P.S plus surplus:

         -      The firm will first provide for investment needs out of its equity earnings and the surplus/residual profits (if any) would be paid out as dividends.

         -      This policy maximizes shareholders wealth since projects with positive N.P.V are first financed from equity earnings.

(b) Factors influencing design for dividend policies
- Legal rules – net profit, capital impairment and insolvency rules. -
Liquidity and profitability
-Tax position of shareholders
- Restrictions from band covenants -
Access to capital markets.
-Investment needs of the firm and the stage of growth.

QUESTION FIVE

a)   Cum-div   -   MPS reflect information on div. Declared but not yet paid.

         Ex-div   -   MPS exclude information on DPS since shareholders register has been closed.

b)   Cum-div MPS   43

         Less year 2001 DPS   (3)

         Ex-div MPS   40

c) Compute „g"

= $1.90(1+g)^4 = 3.00$

= $(1+g) = 1.57895$

g = 12%

$$K_e = \frac{d_0(1+g)}{P_o} + g \quad = \quad K_e = \frac{3(1.12)}{40} + 0.12 \quad = \quad 20.4\%$$

$$K_d = \frac{Int(1-T)}{P_o} + g \quad = \quad K_d = \frac{12\% \times 100(1-0.3)}{95} \quad = \quad 8.8\%$$

M.V of equity (E) = $Sh.40 \times \frac{Sh.40M}{Sh.10par}$ = 160

M.V of debt (D) = $Sh.95 \times \frac{25M}{Sh.100par}$ = $\underline{23.75}$

$\underline{183.75}$

$$20.4\% \left(\frac{160}{183.75}\right) + 8.8\% \left(\frac{23.75}{183.75}\right)$$

17.77 + 1.14 = $\underline{18.9\%}$

d) i) From ordinary share capital = 20% x 20M = 4M

Issue price = Sh.40(1-F) = Sh.36

No. of shares = $\frac{Sh.4M}{Sh.36}$ = 111, 111 shares

ii) $K_r = \frac{3(1.12)}{40} + 0.12$ = 20.4%

$K_e = \frac{3(1.12)}{36} + 0.12$ = 21.3%

$$K_d = \frac{12\% \times Sh.100}{Sh.95}(1-0.3) \quad = \quad 8.8\%$$

MCC = (20.4% x 0.5) + (21.3% x 0.2) + (8.8% x 0.3) = $\underline{17.10\%}$

FINANCIAL MANAGEMENT

MOCK 5

QUESTION ONE

a)   The £ 2,375 is required immediately
        This is in present value terms. It is the capital.

Initial capital	(2,375,000)
P.V of year 1 – 15 cash inflows	
625,000 x $PVIF_{10\%}$, 15 = 625, x7.606	4,752,000
P.V of year 16 – 20 cash inflows	
500,000 ($PVIF_{10\%}$, 20 – $PVIF_{10\%}$, 15)	
500,000 x (8.514 – 7.606)	454,000
PV of salvage value at end of year 20	
750,000 x $PVIF_{10\%}$, 20 = 750,000 X 0.149	111,750
Capital replacement (annuity dues)	
Year 1 – 5 = 50,000 x $PVIF_{10\%}$, 5(1 + r)	
= 50,000 x 3.791 x 1.1	(208,505)
Year 6 – 10 = 75,000($PVIF_{10\%}$, 5) (1 + r)	
75,000(6.145 – 3.791)(1.1)	(194,205)
Year 11 – 17 = 100,000 ($PVIF_{10\%}$, 17 –$PVIF_{10}$, 10)(1.1)	
100,000 (8.022 – 6.145)(1.1)	<u>(208,505)</u>
N.P.V	<u>2,335,320</u>
P.V of salary from job	
250,000 x $PVIF_{10\%}$, 20 = 250,000 x 8.514 =	<u>2,128,500</u>

Decision: Go into business which is yielding sh 206,820 more (2335,320 – 2,128,500)

b)   Other factors to consider
                        - Tax implications
                        - Accuracy of cash flow estimates
                        - Possibility of salary increament if he stayed in employment
                        - Alternative investment opportunities
                        - Personal preferences for self-employment or security of a job
                        - Riskness of the business
                        - Will cost of capital remain constant?

c)   -   Cost of assets in 5 year time = 20000(1.10)^5 = 32,210
        -      Salvage value of asset at end of year 5 = 20,000(1.20)^5 = 6554
        -      Amount to put in the fund = 32210 – 6554 = 25,656
        -      The £ 25,656 is the future value at end of year 5

        Future value of annuity = A x $FVAF_{r\%}$, n

        Therefore 25656 =   A x $\dfrac{(1.12)^2 - 1}{0.12}$

$$25656 = A \times 6.353$$

$$A = \frac{25,656}{6.353} = £4038 \text{ p.a}$$

QUESTION TWO

(a)   -   They require significant initial capital
     -     They involve a lot of uncertainty and risk
     -     Investment is in long lived assets
     -     Cashflows arise over a number of years in future
     -     There is significant time lag between investment and receipt of cash inflows

(b)   Initial capital

Item	Amount	Time (yr)	PVIF$_{16\%}$	P.V
Purchase price	570,000	0	1.000	570,000
Overhaul cost	20,000	3	0.641	12,820
Total outlay				582,820

$$\text{Depreciation (year } 1 - 5) = \frac{570,000 - 110,000}{5\text{yrs}} = 92,000 \text{ p.a}$$

$$\text{Additional depreciation (year 4 and 5)} = \frac{20,000}{2} = 10,000$$

Sh"000

Year	1 – 3	4 – 5
Gross profit 450,000 x 40%	180	180
Labour savings	130	130
Breakage savings	220	220
Operating costs	(250)	(250)
	280	280
Depreciation	92	102
Before tax profits	188	178
Tax @ 30%	(56.4)	(53.4)
Add back depreciation	920	102.0
PVAF$_{16\%}$, n	223.6	226.6
P.V	2.246	(3.274-2.246)
	502,206	232.945

Year	1 – 3	P.V	502,206
Year	4 – 5	P.V	234,945

P.V of salvage value = 110,000 x 0.476   52,360

     Total P.V   787,511

Less initial capital   582,820

N.P.V positive   204,691

The tractor should be purchased since N.P.V is positive

QUESTION THREE

(a)   Expected   EBIT =(0.2 x 16m) + (0.6 x 2m) + (0.2 x 40m) = 28m

Plan	X	Y
EBIT	28	28
Less interest 12m x 18%	2.16	(1.26)
EBIT	25.84	26.74
Less tax @ 30%	7.752	8.022
E.AT	18.088	18.718
Number of shares	2m	2.5m
EPS	Sh 9.044	sh 7.4872

(b)   Accept plan X since it yields a higher E.P.S

(c)   Let EBIT = E

$$EPS = \frac{EBIT - I\ (I - T)}{Shares}$$

$$\frac{(E - 2.16)(0.7)}{2} = \frac{(E - 1.26)\ 0.7}{2.5} = \frac{0.7E - 1.51220,000}{2} = \frac{0.7E - 0.88220,000}{2.5}$$

2.5 (0.7E – 1.5120 = (0.7E – 0.882) 2

1.75E – 3.78 = 1.4E – 1764

0.35E = 2.016

$$E = \frac{2.01620,000}{0.35} = 5.76m$$

QUESTION FOUR

(a)   Workings

-      Cash = 25% x 16m = 4m

-      Current liability = $\frac{C.\ Assets\ 20,000}{Current\ ra\ tio}$ = $\frac{16}{2}$ =18m

-      ROTA = $\frac{Net\ profits}{Total\ Asse\ ts}$

     1.2m

Therefore Total assets = $\overline{6.6667\%}$ = 18m

-      Debt = 30% x 18m = 5.4m

-      Total assets Turnover = 2 = $\dfrac{\text{Sales}}{\text{Total Assets}}$

       Therefore: sales = 2x 18 =36
-      Credit sales = 50% x 36m = 18m

-      Inventory Turnover = $\dfrac{\text{Sales}}{\text{Average stock}}$

       Therefore: Average stock = $\dfrac{54m}{5}$ = 7.2m

-      Debtors period = $\dfrac{\text{Debtors}}{\text{Cr.Sales}}$ x 360 days

       Therefore: debtors = $\dfrac{60 days}{360}$ x 18 = 3m

Balance sheet

Ordinary share capital (Balance)	20.1	Fixed assets 36 – 16 =		20
Debt	5.4	Current assets		
Retained earnings	2.5	Stock	7.2	
Current liabilities	8.0	Debtors	3.0	
		Cash	4.0	
		Other (Balance)	1.8	16
	36			36

       Assumed 360days p.a

QUESTION FIVE

(a)   Initial capital

Cost	1,100,000
Sale of old machine	(165,000)
Loss on disposal (165 – 385) 40%	88,000
Initial capital	1,023,000
Salvage value of new	110,000
Less salvage value of old	55,000
Increamental salvage value	55,000

       Depreciation of new = $\dfrac{1100\,000 - 110\,000}{5 yrs}$ = 198 000 p.a

**FINANCIAL
MANAGEMENT**

$$\text{Depreciation of old} = \frac{825\,000 - 55\,000}{10\text{yrs}} = \frac{77\,000}{121\,000}$$

Savings	143,000
Less depreciation increament	121,000
	22,000
Less tax @ 40%	(8,800)
Profits after tax	13,200
Add depreciation	121,000
Annual cashflows	134,200

P.V @ 14% = 134200 x 3.433 =	460,709
P.V of salvage value 55000 x 0.519	28,545
Total P.V	489,254
Less initial capital	(1,023,000)
Increament N.P.V (-ve)	(533,746)

Don"t replace since NPV is negative

(b)   (i)Maximum price = P.V of future cashflows @ 14%

Yr 1 – 6 cashflows = 240 000 x 3.889	=	933 360
Yr 6 cashflows = 160 000 x 0.456	=	72,960
Maximum price to pay		1,006,320

(ii)   Optim A
244 787.15 x PVAFv%, 6 =1 006 320

$$\text{PVFv\%, 6} = \frac{1\,006\,320}{244\,787.15} = 4.111$$

From PVAF table at 6 periods, 4.111 falls at 12%

Optim B
Cash price of   1 006 320 = P.v
Cash + Interest of   1 880 971.90 = F.V
              n = 6yrs

F.value =P.V $(I + V)^n$

1880 971.90 = 1006320 $(I + V)^6$

$$V = \sqrt[6]{\frac{1\,880\,971.90}{1006\,320}} - 1 = 0.1099 \leq 11\%$$

Optim B is preferable

Part IV: Revision Questions and Answers

Questions

REVISION PAPER 1

QUESTION ONE

(a)   The theory of company finance is based on the assumption that the objective of management is to maximize the market value of a company. To be able to do this, we need to be able to put values on a company and its shares.

Required:
Briefly explain three methods that can be used to value a company.   (9 marks)

(b)   Describe four non-financial objectives that a company might pursue that have the effect of limiting the achievement of the financial objectives.   (8 marks)

(c)   List three advantages to the management of a company for knowing who their shareholders are.   (3 marks)
(Total: 20 marks)

QUESTION TWO

Mchunguzi Limited has compiled the following information on its financing costs:

Type of financing	Book value Sh.	Market value Sh.	Before tax cost
Long-term debt	5,000,000	2,000,000	10%
Short-term debt	5,000,000	5,000,000	8%
Ordinary shares	10,000,000	13,000,000	15%
	20,000,000	20,000,000	

Mchunguzi Ltd. is in the 30 per cent tax bracket and has a target debt-equity ratio of 100 per cent. The company managers would like to keep the market values of short-term and long-term debt equal.

Required:
(a)   The Weighted Average Cost of Capital (WACC) using:
   (i)   Book-value weights.   (3 marks)
   (ii)   Market-value weights.   (3 marks)
   (iii)   Target-weights.   (3 marks)

(b)   Explain the differences between the three WACC calculated in (a) above. What are the correct weights to use in the WACC calculation?   (3 marks)

(c)   Mchunguzi"s Ltd."s subsidiary company, Ottamax Ltd. is considering undertaking awarehouse renovation at a cost of Sh.50 million. The warehouse is expected to yield cost savings of Sh.12 million a year for six years. Ottamax Ltd. has a current debt-equity ratio of 60%, a cost of debt of 25 per cent and a cost of equity of 13.5%. The corporate tax rate for such a firm is 30%.

Required:
Using appropriate computation, advise Ottamax Ltd. on whether it should undertake the renovation. (8 marks)

(Total: 20 marks)

QUESTION THREE

Hafix Ltd. is a manufacturing company. Its projected turnover for the year 2002 is Sh.150,000,000. At present the costs as percentages of sales are as follows:

	Percentage
Direct materials	30
Direct labour	25
Variable overheads	10
Fixed overheads	15
Selling and distribution	5

On average:
1.   Debtors will take 2½ months before payment
2.   Raw materials will be in stock for three months.
3.   Work-in-progress will represent two months worth of half produced goods.
4.   Finished goods will represent one month"s production.
5.   Credit will be taken as follows:

(i)	Direct materials	2 months
(ii)	Direct labour	1 week
(iii)	Variable overheads	1 month
(iv)	Fixed overheads	1 month
(v)	Selling and distribution	½ month

Work-in-progress and finished goods will be valued at material, labour and variable expense cost.

Required:
Working capital requirements of Haffix Ltd. assuming the labour force will be paid for 50 working weeks in the year 2002. **(20 marks)**

QUESTION FOUR

(a)   Nakuru Bottlers Ltd. is a mineral water company based in Nakuru town. The company is listed on the Stock Exchange. Due to the huge demand for its products, the company is in the process of expanding its bottling facilities. The board of directors is undecided as to whether to have a rights issue or a placing on the stock exchange.

Required:
(i)   Explain the meaning of a rights issue and list its advantages.   (5 marks)
(ii)   Explain the meaning of a stock placing and list its advantages.   (5 marks)

(b) Nakuru Bottlers Ltd. can achieve a profit after tax of 20% on the capital employed. At present, its capital structure is as follows:

	Sh.
30,000,000 ordinary shares of Sh.20 each	600,000,000
Retained earnings	150,000,000
	750,000,000

The directors propose to raise Sh.315,000,000 from a rights issue. The current market price is Sh.28.40 per share.

Required:
(i) Calculate the number of shares that must be issued if the rights issue price is Sh.25, Sh.23.40, Sh.21.50, Sh.26 and Sh.27.10.
(ii) Calculate the dilution in earning per share in each case.   (10 marks)
(Total: 20 marks)

QUESTION FIVE

(a) Name and briefly explain five ways in which cash flow problems may arise. (10 marks)

(b) Mary Atieno owns a chain of seven clothes shops in Kisumu town. Takings at each shop are remitted once a week on Thursday afternoon to the head office and are then banked at the start of business on Friday morning. As business is expanding, Mary Atieno has hired a finance assistant to help her. The finance assistant gave the following advice: "Turnover at the seven shops totaled Shs. 1,950,000 last year at aconstant daily rate but you were paying bank overdraft charges at a rate of 11% per annum. You could have reduced your overdraft costs by banking the shop takings each day except Saturdays. Saturdays" takings could have been banked on Mondays."

Required:
Using numbered paragraphs, comment on the significance of this advice, stating your assumptions.
("Note" The shops are closed on Sundays).   (10 marks)
(Total: 20 marks)

REVISION PAPER 2

QUESTION ONE

Insectkill Ltd. is considering whether to establish a new subsidiary in Uganda. The cost of the fixed assets would be Sh.10,000,000 in total, with Sh.7,500,000 payable at once and the remainder payable after one year. A further investment of Sh.3,000,000 in working capital would be required immediately.

The management of Insectkill Ltd. expect all their investments to be financially justifiable within a four year planning horizon. The net disposal value of fixed assets after four years is expected to be zero.

The operation would incur fixed costs amounting to Sh.5,200,000 a year in the first year, including depreciation of Sh.2,000,000. These costs, excluding depreciation are expected to increase by 5% each year because of inflation. The operation would involve the manufacture and sale of a standard unit, with a unit selling price of Sh.12 and variable cost of sh.6 in the first year and expected annual increase because of inflation of 4% and 7% respectively. Annual sales are expected to be 1,250,000 units.

The company"s cost of capital is 14%.

Required:

(a)	Fixed costs for the four years.	(4 marks)
(b)	Total contribution for each of the four years.	(8 marks)
(c)	(i) Net Present Value of the project	(6 marks)
	(ii) Is the project viable?	(2 marks)
		(Total: 20 marks)

QUESTION TWO

(a)	State and briefly explain the functions of a stock exchange.	(5 marks)
(b)	What is a primary market?	(2 marks)
(c)	Is the stock exchange more of a primary market or a secondary market? Explain.	
		(5 marks)
(d)	State and explain the methods of obtaining a listing on the stock exchange.	(8 marks)
		(Total: 20 marks)

QUESTION THREE

(a) Write notes on the following cash management models:

	(i) The Baumol model.	(6 marks)
	(ii) The Miller – Orr model.	(6 marks)

(b) Munyu Ltd. currently has a centralized billing system. All payments are made by customers to a central billing location. It requires average of eight days for customers mailed payments to reach the central location. An additional three days are required to process payments before a deposit can be made into the bank account. The firm has a daily average collection of sh.10,000,000. Recently the bank has investigated the possibility of initiating a lockbox system. It is estimated that if the system is introduced customers mail payments will reach the receipt location five days sooner

than is the case now. Furthermore, the processing time of the payments could be reduced to one day.

Required:
(i)   The reduction in cash balances in transit to the bank brought about by the lockbox system.   (3 marks)
(ii)   The opportunity cost of the present system assuming a 5 per cent per annum return on deposits at the bank.   (2 marks)
(iii)   In light of your answer to part (ii) above, should the lockbox system be introduced, if it will cost Shs. 4,000,000?   (3 marks)
                                                                    (Total: 20 marks)

QUESTION FOUR

Vitabu Ltd. is a merchandising firm. The following information relates to the capital structure of the company:

1.   The current capital structure of the company which is considered optimal, comprises: Ordinary share capital – 50%, preference share capital – 10% and debt – 40%.
2.   The firm can raise an unlimited amount of debt by selling Sh.1,000 par value, 10 year 10% debentures on which annual interest payments will be made. To sell the issue it will have to grant an average discount of 3% on the par value and meet flotation costs of Sh.20 per debenture.
3.   The firm can sell 11% preference shares at the par value of Sh.100. However,, the issue and selling costs are expected to amount to Sh.4 per share. An unlimited amount of preference share capital can be raised under these terms.
4.   The firm"s ordinary shares are currently selling at Sh.80 per share. The companyexpects to pay an ordinary dividend of Sh.6 per share in the coming year. Ordinary dividends have been growing at an annual rate of 6% and this growth rate is expected to be maintained into the foreseeable future. The firm can sell unlimited amounts of new ordinary shares but this will require an under pricing of Sh.4 per share in addition to flotation costs of Sh.3 per share.
5.   The firm expects to have Sh.225,000 of retained earnings available in the coming year. If the retained earnings are exhausted, new ordinary shares will have to be issued as the form of equity financing.
        The company is in the 30% corporation tax bracket.

Required:
(a)   The cost of each component of financing.   (12 marks)
(b)   The level of total financing at which a break in the marginal cost of capital (M.C.C) curve occurs.   (2 marks)
(b)   The weighted average cost of capital (W.A.C.C):
        (i)   Before exhausting retained earnings.   (3 marks)
        (ii)   After exhausting retained earnings.   (3 marks)
                                                                    (Total: 20 marks)

QUESTION FIVE

Many enterprises begin as sole proprietorships and then as they grow ad become successful, the need arises for them to convert to companies and eventually go public.

Required:
(a)   List and explain the advantages a company derives from going public.   (10 marks)

(b)   Highlight the factors that a firm should consider when inviting an initial public offering (IPO).   (10 marks)

(Total: 20 marks)

REVISION PAPER 3

QUESTION ONE

Millenium Electronics Ltd. is a company which produces a wide range of electronic goods. It has recorded a strong and consistent growth during the last 10 years. The management of the company is now contemplating obtaining a stock market listing.

The company"s financial statements for the last financial year are summarized below:

Profit and loss for the year ended 31 December 2000:

	Shs. Million
Turnover	800
Cost of sales	700
Operating profit	100
Interest charges	30
Pre-tax profit	70
Corporation tax	10
Profits attributable to ordinary shareholders	60
Dividends	5
Retained earnings	55

Balance sheet as at 31 December 2000:

Assets employed:	Shs. Million	Shs. Million	Shs. Million
Fixed assets:			
Land and premises	100		
Machinery	200		300
Current assets:			
Stocks	100		
Debtors	100		
Cash	30	230	
Current liabilities:			
Trade creditors	150		
Bank overdraft	50	200	
Net current assets			30
Total assets			330
14% debenture			50
Net assets			280

Financed by:

Issued share capital (Par value Sh.50 each)	40
Profit and loss account	240
Shareholders funds	280

Fixed assets including freehold land and premises are shown at historical cost net of depreciation. The debenture is redeemable in two years although early redemption without a penalty is permissible.

The following information is also available regarding key financial indicators of the industry to which Millenium Electronics Ltd. belongs.

Return on (long-term) capital employed	22% (Pre-tax)
Return on equity	14% (Post-tax)
Operating profit margin	10%
Current ratio	1.8:1
Acid test	1.1:1
Gearing (total debt to equity)	18%
Interest cover	5.2
Dividend cover	2.6
P/E ratio	13.1

Required:

(a) Briefly explain why companies like Millenium Electronics Ltd. seek stock market listing.
(6 marks)

(b) Discuss the performance and financial health of Millenium Electronics Ltd. in relation to that of the industry as a whole. (10 marks)

(c) In what ways would you advise Millenium Electronics Ltd. to change its financial policy following flotation? (4 marks)

(Total: 20 marks)

QUESTION TWO

Nyumbani Security Ltd. is a wholesaler of household security fittings. Over the last 12 months the company has encountered increasing problems with late payment by debtors. The last 12 months of credit sales of Sh.67.5 million show an increase of 10% over the previous year"s sales,but the company"s overdraft on which it is charged 20% per annum has also increased by Sh.1.8 million over the previous year.

The company wishes to reduce its working capital requirements by reducing the debtor collection period.

Nyumbani Security Ltd."s accountant has extracted average debtors profile which is shown below:

Percentage of total debtors payments	Average collection period (days)
5	30
28	45
10	60
30	75
16	90
11	120

Bad debts currently stand at Sh.2 million per annum. Nyumbani Security Ltd. is considering the introduction of early settlement discounts. The current invoicing terms require payment to be made within 30 days of date of issue of the invoice. The accountant has suggested that a 1% discount be offered to all customers who comply with these payment terms and he estimates that 50% of total payments (by value) would be on these terms (an average settlement period of 30 days for these payments can be assumed). The discount scheme would be expected to be taken up by customers who already pay in 75 days or less.

As an alternative way of reducing the debtors figure, Nyumbani Security Ltd. would use a debt collection service which has quoted a price of 1% of sales receipts. It is estimated that using the service will have the effect of reducing debtor days by 20 and eliminating 50% of bad debts.

Required:

(a)   Calculate the change in working capital requirements and bad debts which would result from:

   (i)   The introduction of the early settlement discounts.   (6 marks)
   (ii)   The use of the debt collection service.   (6 marks)
   (iii)   Recommend which policy should be adopted by Nyumbani Security Ltd.

(2 marks)

(b)   Explain the term "Invoice discounting" and the merits and demerits of its use as a way of improving cash flow.   (6 marks)

(Total: 20 marks)

QUESTION THREE

One of the objectives of the Capital Markets Authority is "the protection of investor interests;" [Capital Markets Authority Act, Cap.485A, Section 11, (1) (c)].

Several statements have appeared in the papers to suggest that some instances of share price manipulation have been observed in Kenya.

Required:

(a)   Specify those measures which the Capital Markets Authority has taken and publicized in order to protect the investor.   (10 marks)

(b)   (i)   What is insider trading?   (4 marks)
        (ii)   Can market forces be able to eliminate insider trading? Explain.   (4 marks)

(Total: 18 marks)

QUESTION FOUR

A working capital policy of any business is critical to its viability as a going concern. The board of directors would ignore the information of such a policy to its great disadvantage.

The finance director of Watu Limited is formulating the company"s capital policy for next year. Sales have been protected at Sh.240 million next year. Three alternative policies are under consideration as follows:

1.   Maintain current asset level at 40 per cent of projected sales.
2.   Maintain current asset level at 50 per cent of projected sales.
3.   Maintain current asset level at 60 percent of projected sales.

Required:

(a)   Discuss the expected impact of policies (1) and (3).   (8 marks)

(b)   The fixed assets of Watu Limited are Sh.100 million and the company wishes to maintain a 60 percent debt ratio. The cost of capital for Watu Limited is currently 12 percent on both short-term and long-term debt. This is the rate which the firm also applies on its permanent capital structure. The company earns 15 percent on sales.

What is the expected return on equity under each of the three policies above?

(8 marks)

(c)   Are earnings and level of sales independent of current asset policy in real life? Explain.
(4 marks)

(d)   What is meant by "maturity matching", in finance?   (3 marks)

(Total: 23 marks)

QUESTION FIVE

The Independent Film Company plc is a film company which purchases distribution rights on films from small independent producers, and sells the films on to cinema chains for national and international screening. In recent years the company has found it difficult to source sufficient films to maintain profitability. In response to the problem, the Independent Film Company has decided to invest in commissioning and producing films in its own right. In order to gain the expertise for this venture, the Independent Film Company is considering purchasing an existing filmmaking concern, at a cost of Sh.400,000. The main difficult that is anticipated for the business is the increasing uncertainty as to the potential success/failure rate of independently produced films. Many cinema chains are adopting a policy of only buying films from large international film companies, as they believe that the market for independent films is very limited and specialist in nature. The Independent Film Company is prepared for the fact that they are likely to have more films that fail than that succeed, but believe that the proposed film production business will nonetheless be profitable.

Using data collection from the existing distribution business and discussions with industry experts, they have produced cost and revenue forecasts for the five years of operation of the proposed investment. The company aims to complete the production of three films per year. The after tax cost of capital for the company is estimated to be 14%.

Year 1 sales for the new business are uncertain, but expected to be in the range of Sh.4-10 million. Probability estimates for different forecast values are as follows:

Sales (Sh. million)	Probability
4	0.2
5	0.4
7	0.3
10	0.1

Sales are expected to grow at an annual rate of 5%.

Anticipated costs related to the new business are as follows:

Cost Type	Sh.000
Purchase of firm-making company	300
Annual legal and professional costs	20
Annual lease rental (office equipment)	12
Studio and set hire (per film)	180
Camera/specialist equipment hire (per film)	40
Technical staff wages (per film)	520
Screenplay (per film)	50
Actors" salaries (per film)	700
Costumes and wardrobe hire (per film)	60
Set design and painting (per film)	150
Annual non-production staff wages.	60

Additional Information

(i)   No capital allowances are available.

(ii)   Tax is payable one year in arrears, at a rate of 33% and full use can be made of tax refunds as they fall due.

(iii)   Staff wages (technical and non-production staff) and actors" salaries, are expected to rise by 10% per annum.

(iv)   Studio hire costs will be subject to an increase of 30% in Year 3.

(v)   Screenplay costs per film are expected to rise by 15% per annum due to a shortage of skilled writers.

(vi)   The new business will occupy office accommodation which has to date been let out for an annual rent of Sh.20,000. Demand for such accommodation is buoyant and the company anticipates in finding future tenants at the same annual rent.

(vii)   A market research survey into the potential for the film production business cost Sh.25,000.

Required:

Using DCF analysis, calculate the expected Net Present Value of the proposed investment.

(Workings should be rounded to the nearest Sh."000")   **(15 marks)**

REVISION PAPER 4

QUESTION ONE

(a)   Explain how tax treatment of capital expenditure can affect investment decision.

                                                                          (6 marks)

(b)   Distinguish between "Hard" and "soft" capital rationing clearly indicating the causes of each.   (10 marks)

(c)   How can a firm overcome capital rationing problems?   (4 marks)

                                                        (Total: 20 marks)

QUESTION TWO

(a)   What is rights issue and what are the advantages?

(b)   Gopher Ltd has issued 300,000 ordinary shares of £1 each, which are at present selling for £4 per share. The company plans to issue rights to purchase one new equity share at a price of £3.20 per share for every 3 shares held. A shareholder who owns 900 shares thinks that he will suffer a loss in his personal wealth because the new shares are being offered at a price lower than market value. On the assumption that the actual market value of shares will be equal to the theoretical ex-rights price, what would be the effect on the shareholder"s wealth if:

        (a)   He sells all the rights;
        (b)   He exercises one half of the rights and sells the other half;
        (c)   He does nothing at all?

QUESTION THREE

The following are the financial statements of Richardo Ltd. for the year ended 31 March 1995:

Balance Sheet as at 31 March 1995

	Shs.		Shs.
Cash	480,000	Trade creditors	860,000
Debtors	640,000	Notes Payable (9%)	840,000
Stock	2,080,000	Long term debt (10%)	1,600,000
Equipment	1,600,000	Shareholders Equity	1,500,000
	4,800,000		4,800,000

Income Statement for the year ended 31 March 1995

	Shs.	Shs.
Sales		6,000,000
Less: cost of sales		3,600,000
Gross profit		2,400,000
Deduct:		
Selling expenses	600,000	
Administrative and general expenses	1,120,000	
Profit before taxation	235,600	1,955,600
Taxation		444,400
Net profit		177,760
		266,640

All sales are net and on credit.

The following industry ratios are also provided to you.

Industry averages

Current ratio	2.5 times
Acid test ratio	1.1 times
Stock turnover ratio	2.4 times
Total assets turnover ratio	1.4 times
Times interest earned ratio	3.5 times
Net profit margin	4.0 percent
Return on investment	5.6 percent
Total asset to shareholders equity	3.0 times
Return on shareholders equity	16.8 percent

Required
(a) Calculate the ratios shown above for Richardo Ltd. and present them in columnar form along the industry averages. (14 marks)
(b) Comment upon the following about Richardo Ltd. in relation to the industry averages:
    (i)   Liquidity position (3 marks)
    (ii) Financial risk (3 marks)
    (iii) Overall performance (3 marks)
    (Total: 23 marks)

QUESTION FOUR

RITE Ltd. maintains an average monthly balance of Sh.320,000 in accounts receivable throughout the year. The company is in need of additional working capital and is considering two alternative methods of raising it.

METHOD   1   Factoring accounts receivable
METHOD   2   A commercial bank loan secured by accounts receivable.

The company"s bankers have agreed to lend the firm 80% of its average accounts receivable at an interest of 30% per annum. The amount will be made available in a series of 30 day advances. The advances would be discounted and a 6% compensating balance will be required.

The factor is willing to establish a factoring arrangement on a continuing basis. It charges 2% for servicing the accounts and 15% per annum on any advances taken. Both charges are made on discount basis. In addition, the factor requires a 5% reserve to cover returned items. RITE Ltd. sells its merchandise on terms of net 30.

Required:
(a) Calculate the amount of advances RITE Ltd. can expect to have under each alternative.
    (14 marks)
(b) Calculate the effective rate of interest for each financing alternative. (4 marks)
(c) Which alternative would you recommend and why? (2 marks)
    (Total: 20 marks)

QUESTION FIVE

The Pesa Company Unlimited is using a machine whose original cost was Sh.720,000. The machine is two years old, and it has a current market value of Sh.160,000. The asset is fully being depreciated over a twelve-years period. At the end of the twelve-years the asset will have a zero salvage value. Depreciation is on a straight line basis.

The Management is contemplating the purchase of a new machine to replace the old one. The new machine costs Sh.750,000 and has an estimated salvage value of Sh.100,000. The new machine will have a greater technological capacity, and therefore annual sales are expected to increase from Sh.10,000,000 to Sh.10,100,000. Operating efficiencies with the new machine will produce an expected saving of Sh.100,000 a year. Depreciation would be on a straight line basis over a ten-year life. The cost of capital is 12%, and a 40% tax rate is applicable. In addition, if the new machine is purchased, inventories will increase by sh.150,000 and payables by Sh.50,000 during the life of the project.

Required:

(a)   Should the new machine be purchased? (Use Net Present Value (NPV) approach).

(14 marks)

(b)   What factors in addition to the quantitative ones above are likely to require consideration in a practical situation?   (6 marks)

(Total: 20 marks)

REVISION PAPER 5

QUESTION ONE

(a)   Define development financial institutions and justify their existence in the economy concerns.
(b)   Explain the case for and against development financial institutions.

QUESTION TWO

(a)   What advantages do investors derive from investment in shares?   (10 marks)
(b)   State and explain two Theories used to explain when to time investment in the stock exchange.   (10 marks)

(Total: 20 marks)

QUESTION THREE

Westwood Ltd. has projected its working capital for the next 12 months as follows:

Month	Amount Sh."000"	Month	Amount Sh."000"
January	2,800	July	16,800
February	2,800	August	19,400
March	4,200	September	12,600
April	5,600	October	7,000
May	8,400	November	5,600
June	12,600	December	4,200

The cost of short-term and long -term funds per annum is projected at 20% and 25% respectively during the same period.

Required:
(a)   Prepare a schedule showing the amount of permanent and seasonal funds requirements each month.   (12 marks)
(b)   What is the average amount of long-term and short-term financing that will be required each month?   (2 marks)
(c)   Calculate the total cost of working capital financing if the firm adopts:
        (i)   An aggregate financing strategy
        (ii)   A conservative financing strategy.   (8 marks)

(Total: 22 marks)

QUESTION FOUR

The Salima company is in the fast foods industry. The following is the company"s balance sheet for the year ended 31 March 1995:

Assets	Sh."000"	Liabilities and owners equity	Sh."000"
Current Assets	65,000	Current liabilities	25,000
	85,000	16% Debentures (Sh.1,000 par)	31,250
Net fixed assets		15% Preference shares	12,500
		Ordinary shares (Sh.10 par)	25,000
		Retained profits	56,250
	150,000		150,000

Additional information:

1.   The debenture issue was floated 10 years ago and will be due in the year 2005. A similar debenture issue would today be floated at Sh.950 net.

2.   Last December the company declared an interim dividend of Sh.2.50 and has now declared a final dividend of Sh.3.00 per share. The company has a policy of 10% dividend growth rate which it hopes to maintain into the foreseeable future. Currently the company"s shares are trading at Sh.75 per share in the local stock exchange.

3.   A recent study of similar companies in the fast foods industry disclose their average beta as 1.1.

4.   There has not been any significant change in the price of preference shares since they were floated in mid 1990.

5.   Treasury Bills are currently paying 12% interest per annum and the company is in the 40% marginal tax rate.

6.   The inflation rate for the current year has been estimated to average 8%.

Required:

(a)   Determine the real rate of return.   (2 marks)

(b)   What is the minimum rate of return investors in the fast foods industry may expect to earn on their investment? Show your workings.   (7 marks)

(c)   Calculate Salina"s overall cost of capital.   (6 marks)

(d)   Discuss the limitations of using a firm"s overall cost of capital as an investment discount rate.   (6 marks)

(Total: 21 marks)

QUESTION FIVE

(a)   State any 5 stakeholders of the firm and identify their financial objectives.   (10 marks)

(b)   State the different types of bond covenants which bondholders may impose on shareholders to protect themselves.   (10 marks)

(Total: 20 marks)

Answers

REVISION PAPER 1

QUESTION ONE

(a)   Methods of valuation

    (i)   **Balance sheet valuation**, with assets valued on a going concern basis. Investors look at a company"s balance sheet and if retained profits rise everyyear, the company will be a profitable one. Balance sheet values are not a measure of the market value but retained profits may give an indication of what the company could pay as dividends to the shareholders.

    (ii)   The valuation of a company on a **break-up basis**. This method is only of interest when the business is threatened with liquidation or when its management is thinking about selling off individual assets (other than a complete business) to raise cash.

    (iii)   **Market values**. This is the value at which buyers and sellers will trade stocksand shares in a company. This is the method of valuation that is relevant to the financial objective of a company. When a company has its shares traded on a recognized stock exchange, the market value of a company will be measured by the price at which the shares are currently trading. Shares of unlisted companies are difficult to value even though the financial objective of such companies is to maximize the market value of the company.

(b)   ▪   Welfare of employees. A company might try to provide good wages and   salaries, comfortable and safe working conditions, good training and career development etc.

    ▪   Welfare of management. Managers will often take decisions to improve their own circumstances. Their decisions have the effect of incurring expenditure and reducing profits.

    ▪   Welfare of society as a whole. Many companies participate in social and environmental activities which are meant to improve the social welfare of the society as a whole. Such activities incur costs.

    ▪   Fulfillment of responsibilities towards customers and suppliers.

        -    Customers will need to be provided with products and services of the standard of quality that they demand. They will also expect the company to be honest and fair in its dealing with them.

        -    The company needs to maintain relationships with suppliers.

    ▪   Business ethics e.g no tax evasion, no bribery, fair employment practices and policies.

(c)   ▪   Management might learn about the shareholders preference for either high   dividends or high retained earnings for profits and capital gain.

    ▪   Recent share price movements can be explained by changes in share holdings.

    ▪   Enables them to know their attitudes towards risks and gearing.

QUESTION TWO

(a)   (i) WACC using book value weights:-

		%	**Cost**	**WACC**
Long term debt	5,000	0.25	7%	1.75
Short term debt	5,000	0.25	5.6%	1.4
Ordinary shares	10,000	0.5	15%	7.5
	20,000			10.65%

After tax cost of debt = long term = 10(1 – 30%) = 7%

(ii)   WACC using market value weights:-

		%	**Cost**	**WACC**
Long term debt	2,000	0.10	7%	0.7
Short term debt	5,000	0.25	5.6%	1.4
Ordinary shares	13,000	0.65	15%	9.75
	20,000			11.85%

(iii)   Since the target weights are 50/50 the answer is 10.65% as above.

(b)   The differences in the WACCs arise because of the **value of the weightings** using market value weights gives a higher WACC because equity has a heavier weighting. The market value weights are the right weights to use as they reflect the true value of equity and debt unlike the book value weights which are accounting values and they make use of historical costs.

(c) $$\frac{6}{6+10}\big(25\%(1-30)\big)+ \frac{10}{6+10}\big(13.5\%\big) = 15\%$$

$$
\begin{aligned}
NPV &= (12m \times PVIF_{15\%},6) - 50 \\
&= (12 \times 3.785) - 50 \\
&= 45.42 - 50 \\
&= -4.58
\end{aligned}
$$

The project has a negative NPV. This means that the financial markets offer superior projects in the same risk class. The firm should reject the project.

QUESTION THREE

The annual costs incurred will be as follows:

		Shs.
Direct materials	30%	45,000,000
Direct labour	25%	37,500,000
Variable overheads	10%	15,000,000
Fixed overheads	15%	22,500,000
Selling and distribution	5%	7,500,000

Average value of current assets will be:

Shs.

Raw materials	3/12 x 45,000,000	-	11,250,000
Work in progress:			
Materials (100% complete)	2/12 x 45,000,000	7,500,000	
Labour (50% complete)	1/12 x 37,500,000	3,125,000	
Variable overhead (50% complete)	1/12 x 15,000,000	1,250,000	11,875,000
Finished goods	1/12 x 45,000,000	3,750,000	
Materials	1/12 x 37,500,000	3,125,000	
Labour	1/12 x 15,000,000	1,250,000	8,125,000
Debtors	5/12 x 15,000,000		3,125,000
			62,500,000

Average values of current liabilities will be:-

		Shs.	**Shs.**
Materials	2/12 x 45,000,000	7,500,000	
Labour	1/50 x 37,500,000	750,000	
Variable overheads	1/12 x 15,000,000	1,250,000	
Fixed overheads	1/12 x 22,500,000	1,875,000	
Selling and distribution	1/12 x 37,500,000	3,125,000	14,375,000
Working capital	1/12 x 7,500,000		48,125,000

QUESTION FOUR

(a)   (i) **Rights issue**

Existing shareholders have a **pre-emptive rights** when new shares are issued. They exercise their rights in a rights issue. A rights issue will provide a way of raising new capital by means of an offer to existing shareholders, inviting them to subscribe cash for new shares in proportion to their existing holdings. It can be made by any type of company i.e. public, listed or unlisted.

Advantages:
- Cheaper than offers for sale to the general public (low flotation costs)
- "Signaling" effects of higher profits in future.
- More beneficial to the existing shareholders than issues to the general public
- Enables a firm to raise new finance
- Relative voting rights are unaffected if shareholders take up their rights (no dilution)

(ii)   Placing

This is an arrangement whereby the shares are not all offered to the public. Instead, the sponsoring maker (broker) arranges for most of the issue to be bought by a small number of investors, usually institutional investors such as pension funds and insurance companies.

Advantages:
-
  Cheaper as it involves a small number of shareholders (low flotation costs)
-
  It is possible to have shares sold to investors who are preferred.

(b)   Current earnings are 20% of Sh.750,000 = 150,000,000

After rights issue 20%(750m + 315m) = Sh.213,000,000.

Current EPS = $\dfrac{20\% \ x750 \ m}{30,000\ ,000}$ $= Sh.5$

Issue/Rights price Sh. (a)	No.of new shares "millions" (b) = Amt raised / Issue price	EPS after rights issue	EPS before rights issue	Dilution Sh.
25	12.600	5.00	5.00	0.0
23.40	13.462	4.9	5.00	-0.10
21.50	14.651	4.77	5.00	-0.23
26.00	12.115	5.06	5.00	+0.06
27.10	11.624	5.12	5.00	+0.12

QUESTION FIVE

(a)   Cash flow problems can arise in the following ways:
- (i)   Making losses. If a business is making loses it will eventually have cash flow problems. The time taken to experience cash flow problems this way depends on the size of the losses and the magnitude of depreciation.
- (ii)   Inflation. In periods of inflation a business will need over-increasing amount of cash first to replace used up and worn-out assets. A business may be making a profit in historical cost accounting terms but not receiving enough cash to replace assets it needs.
- (iii)   Growth. When a business is growing, it needs to acquire more fixed assets and to support higher amounts of stocks and debtors. Those additional assets must be paid for somehow in cash.
- (iv)   Seasonal business. A business is likely to have cash flow problems during certain periods of the year.
- (v)   One-off items of expenditure. This can be an occasional non-recurring item of expenditure that creates cash flow problem of repayment of a loan capital after maturity of a debt.
- (vi)   Poor working capital management policy

(b)   (i)A bank overdraft rate of 11% is approximately:

$\dfrac{11\%}{365}$ = 0.03% per day

(ii)   An annual takings of Sh.1,950,000 would be an average Sh.1,950,000 ÷ 312 = Sh.6,250 a day for the seven shops in total. Assuming that it opened for 52 weeks of six days a week (312).

(iii) Using the approximate overdraft cost of 0.03% a day, the cost of holding Sh.6,250 for one day instead of banking is 0.03% x Sh.6,250 = Sj/1.875

(iv) Banking all takings up to Thursday evening of each week on Friday morning involves unnecessary delay in paying cash into the bank. The cost of this delay would be either:

- Opportunity cost investment capital for the business or

- Cost of avoidable bank overdraft charges.

(iv) The business woman could have saved Sh.187.5 per week and Sh.187.5 x 14 x 52 per year in bank overdraft charges.

REVISION PAPER 2

QUESTION ONE

(a)   Fixed costs

		Sh.
Year 1	(5,200,000 – 2,000,000)	3,200,000
Year 2	$3200(1.05)^1$	3,360,000
Year 3	$3200(1.05)^2$	3,528,000
Year 4	$3200(1.05)^3$	3,704,400

(b)   Contribution

Year	Unit selling price Sh.	Unit variable cost Sh.	Unit contribution Sh.	Unit	Total contribution Sh.
1	12.00	6.00	6.00	1,250,000	7,500,000
2	12.48	6.42	6.06	1,250,000	7,575,000
3	12.98	6.87	6.11	1,250,000	7,637,500
4	13.50	7.35	6.15	1,250,000	7,687,500

(c)   (i) NPV

Year	Fixed assets Sh.	Working capital	Contribution less fixed costs Sh.	Net cash flow Sh	Discount factor 14%	Present value Sh.
0	(7,500,000)	(3,000,000)		10,500,000	1.000	(10,500,000)
1	(2,500,000)		4,300,000		0.870	1,578,600
2			4,215,000	1,800,000	0.769	3,241,335
3			4,109,500		0.675	2,773,913
4		3,000,000	3,983,100	4,215,000	0.592	4,133,995
						1,227,843
				4,109,500		
				6,983,100		

(ii)   The NPV is positive and so the project can be accepted as it is viable.

QUESTION TWO

(a)   Functions of a stock exchange

- Enables capital to be raised by the government by issue of debt and by industry (by issue of securities).

- Provides a secondary market through which existing securities can be bought and sold by shareholders and long-term debt owners (liquidity and marketability)

- Advertises security prices enabling the investors and the public to follow progress or otherwise of their investments and to channel their funds into what they perceive to be profitable enterprises.

-
    Protects investors against fraud. Where fraud is suspected, the dealing is suspended.
-
    Serves as an economic barometer of the fortunes of government and enterprises. The stock index indicates prospects of quoted companies and of the economy as a whole.
-
    Pricing of securities
-
    Commercialization and privatization of firms.

(b) Primary market is a market which raises new capital for companies or for the government.

(c) Stock exchange is more of a **secondary market** because shares held by investors are traded in the secondary market. A strong **secondary market supports the primarymarket** because investors in new issues need to know that they can sell them tosomeone else if the need arises.

(d) Methods of obtaining a listing at the stock exchange:
-
    Offer for subscription: Can be fixed or by tender and occurs where theissuing authority offers the shares directly to the public using an intermediary.
-
    Placing: A sponsor buys the whole issue and then determines terms for sale toits own clients. Any unplaced shares are sold to a second broker known as an intermediary.
-
    Introduction: Method available to companies that already have a good spreadof shareholders or companies already quoted on an overseas exchange.
-
    Tender offer: Where shares are subscribed for using a bidding system.

QUESTION THREE

(a) (i) **Baumol model** – applies the EOQ model to the cash management problem. With cash just as with inventories, there are order costs (clerical works and brokerage fees in making transfers) and holding costs (interest foregone). The optimal cash balance minimizes these costs.

$$C = \sqrt{2bT\,i}$$

Where: b = Transaction/order costs
         C = Optimal cash balance
         T = Total annual cash requirements
         i =Interest rate on short term marketable securities

(ii) **Miller Orr model** –expands the Baumol model by incorporating a stochasticgenerating process of periodic changes in cash balances so that the cash pattern resembles that shown below.

H	=	Upper limit/balance
Z	=	Optimal cash balance
L	=	Lower cash balance
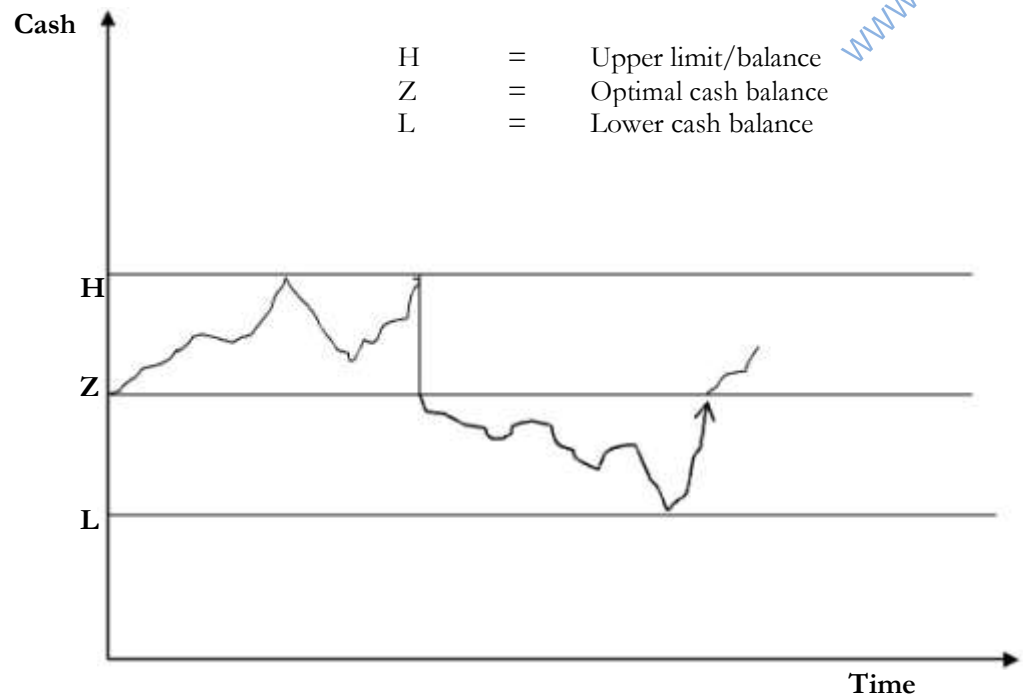
The model assumes that net cash flows behave as if they were generated by a "statutory random walk".

$$Z^K = \left[\frac{3b\sigma^2}{4i}\right]^{1/3} + L$$

Where: b = Transaction cost
σ² = Daily variables of cash flows
i = Daily interest rate on short term marketable securities.

(b) (i) Total time savings = 7 days Reduction in balance = 7 x 10,000,000
= Sh.70,000,000

(ii) Opportunity cost =5/100 x 70,000,000 = Sh.3,500,000

(iii) Since opportunity cost is less than cost of lockbox, the lockbox should not be introduced.

QUESTION FOUR

(a) **Cost of debt K₁**

$$K_d = \frac{1 + \frac{1000 - N_d}{n}}{\frac{N_d + 1000}{2}}$$

I $=$ 0.1 x 1000 $=$ 100
N_d $=$ 1000 – 30 discount – 20 floatation costs = 90
n $=$ 10 years

$100+ \dfrac{1000 - 950}{10}$ $=$ 10.8%

$\dfrac{950 + 1000}{2}$

K_1 $=$ $K_d(1 - I)0.108(1 - 0.3)$

0.108(0.7) $=$ 7.56%

Cost of preferred stock K_P

$\mathbf{K_P}$ $=$ $\dfrac{D_p}{N_p}$

$\mathbf{D_P}$ $=$ 0.11 x 100 $=$ 11

$\mathbf{N_P}$ $=$ 100 – Sh.4 floatation cost = 96

$\mathbf{K_P}$ $=$ $\dfrac{11}{96}x100$ $=$ 11.5%

Cost of retained earnings

K_r $=$ K_s $=$ $\dfrac{D_1}{P_o} + g$

$\dfrac{6}{80}x100+6\%$ $=$ 7.5% + 6% $=$ 13.5%

Cost of new common stock K_n

$\mathbf{K_n}$ $=$ $\dfrac{D_1}{N_o} + g$

$\mathbf{D_1}$ $=$ Sh.6,g $=$ 6%, N_n $=$ 73

$\mathbf{K_n}$ $=$ $\dfrac{6}{73}x100+6\%$ $=$ 8.219% + 6% $=$ 14.219%

(c) **Break occurs at:**
$\dfrac{225,000}{0.5}$ $=$ Sh.450,000

(c) (i) WACC before exhausting retained earnings.
$=$ 0.4 x 7.56% + 0.1 x 0.5 x 13.5% $=$ 10.9%

(ii) With external equity
3.024 + 1.15 + 7.11 $=$ 11.28%

FINANCIAL MANAGEMENT

QUESTION FIVE

(a)   **Advantages of going public**

  (i)   Permits diversification – by selling some of their shares to the public, a company can diversify their holdings reducing the riskiness of their personal portfolios.

  (ii)   Increases liquidity

  (iii)   Facilitates raising of further cash where needed e.g. through a right issue

  (iv)   Establishes value of a firm – the value of shares of a company are determined by the forces of the market and thus no uncertainty.

  (v)   Financial management discipline – once a firm goes public its finances and its managers are open to scrutiny by shareholders and risk of corporate raiding in case of non-performance.

(b)   **Factors to consider when inviting an initial public offering (IPO)**

  (i)   The size of the volume of the expected future cash flow returns which the share is expected to generate.

  (ii)   An estimate of the investors required rate of return from the prospective investment.

  (iii)   Succession plans in place for key executives.

  (iv)   Long-term performance – since most IPO"s are under priced, managers have to think of long-term performance of the stock and how to bring it to the right place.

  (v)   Track record of improving internal business processes.

SOLUTIONS

REVISION PAPER 3

QUESTION ONE

(a)   A company such as millennium may seek a stock market listing for the following reasons:
        (i)   To allow access to a wider pool of finance
        (ii)   To improve marketability of the shares
        (iii)   To allow capital to be transferred to other ventures.
        (iv)   To improve the company – of quoted companies are commonly believed to be more financially stable.
        (v)   To facilitate growth by acquisition.

(b)   (i) Return on long term capital employed:
                Operating II: equity + long term

                debt 100:69.7% 30.3%

        (ii)   Return on equity:

                Profit attributable to ordinary shareholders equity

                60%   280   21.4%   280 + 50

        (iii)   Operating profit margin:

                Operating II: sales

                100: 800   12.5%

        (iv)   Current ratio:

                Current Assets: Current liabilities

                230: 200   1.15:1

        (v)   Acid test

                Current Asset – stock: current liabilities

                130: 200   0.65:1

        (vi)   Gearing

                Long term debt: equity

                50 + 50:280   35.7%

        (vi)   Dividend cover

Profits attributed to equity: Dividends

60:5   12 times

(vii)   Interest cover:

Profit before interest and tax: interest

100:30   3.33 times

These ratios can be used to evaluate performance in terms of profitability, liquidity and financial security.

In summary, profit performance is strong but there are significant weaknesses in both the liquidity and financial structure which need to be addressed.

(c)   Following the flotation, millennium is likely to come under pressure to improve the pay out ratio and dividend performance of the shares. If it wishes to maintain a good share price and the ability to raise further finance in the future then it would be well advised to consider this seriously. It could also work towards covering the gearing ratio.

QUESTION TWO

(a)   (i) The current position is as follows:

Average collection period

(a) % Value	(b) Average days	(a) x (b)
5	30	150
28	45	1,260
10	60	600
30	75	2,250
16	90	1,440
11	120	1,320
100		7,020

Working capital requirements: sales x collection period/365

$$67.5x \quad \frac{70.2}{365}$$

=   12,982,192

Total funding costs

Funding costs   =   12.982m x 20% =   2.596

Add cost of bad debts   =   2.000

Total funding cost   =   4.596

(ii)   The early settlement discount would reduce the amount of sales income by 67.5m x 50% x 1% = Sh.0.3375m.

The revised sales income will be 67.163m.

The new average collection period can be found as follows:

(a) % Value		(b) Average days	(a) x (b)
5		30	150
28		30	840
10	50%	30	300
7		30	210
23		90	1,725
16	50%	120	1,440
11			1,320
100			5,985

Average collection period	=	$\frac{5985}{100}$ =	59.85 days

Working capital requirement $\quad$ = $\quad$ Sales x collection period

$$= \quad \frac{59.85}{365} \quad x67.163 \quad = \quad 11.013$$

Funding cost	=	11.013m x 20% =	2.203
Add cost of bad debts		=	2.000
Add cost of discount		=	0.338
Total funding cost			4.541

Adoption of the discount scheme would increase Nyumbani costs by 0.0556m per year. The scheme should not be introduced.

(iii) Reducing the debtor days by 20 would reduce the working capital requirement at follows:

Reduction in overall debt	=	67.5 x 20/365
Reduction in funding cost	=	3.699 x 20%
Reduction in bad debts	=	2.0m x 50% = 1m
Cost of service	=	67.5m x 1%

Total savings 0.7398m + 1 – 0.675 = 1.0648

Use of the debt collection services would reduce Nyumbani annual cost by 1.0648. Nyumbani should take up this proposal.

(b) **Advantages of invoice discounting:**

1.   It is a source of off-balance sheet finance that can be used to meet one-off requirements.
2.   Working capital requirements are reduced and cash flow is improved.

Disadvantages:
1.   The service is relatively expensive
2.   The discounter will normally offer the service with recourse, the client remaining liable for bad debts. Therefore the risk of bad debts remains.
3.   The discounter will normally only accept invoices to customers with a good credit rating. This means that the amount of finance available will depend on the quality of the client"s debtors.

Invoice discounting is a method of raising finance from the debtor"s ledger. The invoice discounter does not take over the administration of the client"s sales ledger and the arrangement is purely to secure an advance of cash. The discounter will offer to purchase selected invoices and advance to 75% of their value. The balance of the purchase price less changes will be paid over once the customer has settled the invoices.

QUESTION THREE

(a)   Investors Protection Measures
   (i)   Issue of rules on appointment of consultants/brokers/investment advisers and rating agencies.
   (ii)   Increasing number of licensed brokers to make market more competitive.
   (iii)   Issue of accounting disclosure guidelines for quoted companies
   (iv)   Guidelines for issues of bonds and commercial paper
   (v)   Suspension of shares where doubts are expressed.
   (vi)   Reduction in the cost of issue of new shares
   (vii)   Compensation schemes

(b)   (i)Insider trading: Trading in securities carried out by persons considered to be

   insiders. Insiders include member of the Board of Directors, corporate officers and any beneficial owner of more than 10 per cent of any class of shares. Usually rules demand and that they must disclose any changes in their stock holding.

   (ii)   Financial theory proposes that if the share market is strong – form efficient, then the price in that market will fully and instantaneously reflect all information whether it is available or not.

   It follows therefore that if markets were strong form efficient, then insider dealings will not enable the participant to earn any superior returns. Market forces will be able to counteract such possibilities.

QUESTION FOUR

(a)   Policy (i) is an aggressive working capital policy with how ratio of current assets to sales. The expected impact can be:
   -      Inability to pay creditors bills
   -      Lost sales and customer goodwill
   -      Production stoppages
   -      Higher overall risks but high return.

Policy (iii) is a conservative marketing capital policy with high ratio of current assets to sales. The expected impact can be:-
- lower returns due to high holding costs
- lower risk

(b) Financial Impact of Policies

	(i)	(ii)	(iii)
Sales	240,000,000	240,000,000	240,000,000
Earnings (15%)	36,000,000	36,000,000	36,000,000
Current Assets	96,000,000	120,000,000	144,000,000
Fixed Assets	100,000,000	100,000,000	100,000,000
Total Assets	196,000,000	220,000,000	244,000,000
Rate of return on assets:	18.37%	16.36%	14.75%

(c) In real life, the relationship among the variables is rather complex. This is because:-
- Different types of assets affect both risk and returns differently. Increasing cash holding reduces the firms overall risk than a similar increase in inventories.
- Holding more inventories increase the cost of storage and obsolescence.
- Stock – outs will result in loss of customer goodwill which will reduce sales.

(d) Maturity matching means matching assets and liability maturities by financing current assets with short-term debt and fixed assets with long-term debt or equity.

QUESTION FIVE

Cash flows Sh."000"

	0	1	2	3	4	5	6
Purchase of Company	(400)						
Legal/Professional		(20)	(20)	(20)	(20)	(20)	
Lease rentals		(12)	(12)	(12)	(12)	(12)	
Studio hire		(540)	(540)	(702)	(702)	(702)	
Camera hire		(120)	(120)	(120)	(120)	(120)	
Technical staff		(1560)	(1716)	(1888)	(2077)	(2285)	
Screenplay		(150)	(173)	(199)	(229)	(263)	
Actors salaries		(2100)	(2310)	(2541)	(2795)	(3074)	
Customers/Wadrobe		(180)	(180)	(180)	(180)	(180)	
Non Production Staff Wages		(60)	(66)	(80)	(80)	(88)	
Set design		(450)	(450)	(450)	(450)	(450)	
"Lost income" from office accommodation		(20)	(20)	(20)	(20)	(20)	
Sales		5900	6195	6505	6830	7172	
Cash flow before tax	(400)	688	588	300	145	(42)	
Tax		-	(227)	(194)	(99)	(48)	(14)
Net Cash Flow	(400)	688	361	106	46	(90)	(14)
Dsc. Factor	1	0.877	0.769	0.675	0.592	0.519	0.456
P.V Cash Flow	(400)	603	278	72	27	(47)	6

SOLUTION

REVISION PAPER 4

QUESTION ONE

(a)   - The tax treatment of capital purchases can affect an investment decision because where tax relief is available, the tax benefits serve to reduce the effective cost of an investment. For example, suppose that a company estimates the net present value of a two year project to be £10,000, but that this is in the absence of any capital allowances being available on capital purchase. If the government then introduces 100% first year allowances, the company can use the allowances claimed on purchases to offset its corporation tax liability.

- If capital purchases totaled £15,000 and tax was payable at a rate of 33%, the cash impact of the capital allowances would be (£15,000 x 0.33) or £5,000 in reduced tax liabilities. This amounts to a 50% increase in the NPV. The impact on NPV will be less marked where the capital allowances take the form of writing down allowances instead of a large first year allowance, but the general effect is the same.

- Clearly the example given above is an extreme case, but it illustrates the fact that on potential marginal projects, it is possible that tax benefits could serve to convert a negative NPV into one which is positive. For this reason, capital allowances on investments can be viewed as a tool of government economic policy. If the economy is suffering from low levels of industrial investment, then an increase in the level of allowances can be used to encourage such investment.

- Obviously the tax treatment of capital purchases will only affect investment decisions in cases where the investing company is able to take advantage of the reliefs available. For loss making companies or those with tax liabilities below the threshold of the tax relief created by allowances, the situation is more complex, and investment decisions may be made irrespective of the tax position. Similarly, there may be some investments which are being made for strategic reasons, and which would be made regardless of the tax treatment of capital purchases. It is oversimplifying the situation to argue that higher tax allowances will definitely lead to an increase in industrial investment.

(b)   **Capital rationing:** a situation in which a company has a limited amount of capital toinvest in potential projects, such that the different possible investments need to be compared with one another in order to allocate the capital available most effectively.

Soft and hard capital rationing
- Capital rationing may occur due to internal factors (soft capital rationing) or external factors (hard capital rationing).
- Soft capital rationing may arise for one of the following reasons.

   - Management may be reluctant to issue additional share capital because of concern that this may lead to outsiders gaining control of the business.

   - Management may be unwilling to issue additional share capital if it will lead to a dilution of earnings per share.

   - Management may not want to raise additional debt because they do not wish to be committed to large fixed interest payments.

- There may be a desire with the organization to limit investment to a level that can be financed solely from retained earnings.
- Capital expenditure budgets may restrict spending.
- Managers may prefer … to sudden increase in size organic (internal) growth arising from accepting several large projects especially if the firm does not want to employ new managers to manage such projects.

Hard capital rationing may arise for one of the following reasons:
- Raising money through the stock market may not be possible if share prices are depressed.
- Where the providers of equity or debt capital perceive the firm to be too risky e.g highly geared
- Where the floatation costs of raising a small of capital is punitively high.
- Where interest rates in the economy are very high discouraging firms borrowing and using only internally available funds.

(c)   As an alternative to direct investment in a project, the company may be able to consider a licensing or franchising agreement with another enterprise, under which the licensor/franchisor company would receive royalties.

It may be possible to contract out parts of a project to reduce the initial capital outlay required.

The company may seek new alternative sources of capital (subject to any restrictions which apply to it) for example:
    (i)   venture capital
    (ii)   debt finance secured on the assets of the project;
    (iii)   sale and leaseback of property or equipment;
    (iv)   grant aid;
    (v)   more effective capital management

QUESTION TWO

(a)   A rights issue is a method of raising new share capital by means of an offer to existing shareholders, inviting them to subscribe cash for new shares in proportion to their existing holding. It is by far the most important way in which new share capital is raised. A rights issue may be made by any type of company, private or public, listed or unlisted. The analysis below, however, applies primarily to listed companies.

The major advantages of a rights issue are:
    (i)   Under the Stock exchange regulations all issues of shares for cash other than rights issues must be approved by the company in general meeting. In contrast, subject to the Memorandum and Articles of Association, a rights issue may be made at the discretion of the directors. The Stock Exchange is therefore unlikely to accept any new issue of shares by a quoted company unless it is a rights issue, unless the purpose of the new issue is to allow a partial takeover by a large company or financial institution, which would be in the best interests of existing shareholders.
    (ii)   Rights issues are cheaper than issues to the general public. This is partly because no prospectus is required, partly because the administration is simpler and partly because the cost of underwriting will be less;

(iii)   It is more beneficial to existing shareholders than an issue to the general public as it avoids expense represented by the discount on market value required on all issues. In effect, a rights issue secures the market discount for existing shareholders by ensuring that new shareholders cannot buy into the company at a price which is beneficial to them and, therefore, detrimental to the existing shareholders;

(iv)   Relative voting rights are unaffected;

(v)   As a method of issuing new equity, it provides a broader base for the company, which will make future borrowing by the company relatively easier.

(b)

	£
3 shares „cum rights" are worth (x 4)	12
1 new share will raise	3.20
4 shares will have a theoretical value of	15.20

The theoretical ex-rights price is $\dfrac{£15.20}{4} = £3.80$ per share

	£
Theoretical ex rights price	3.80
Price per new share	3.20
Value of a right	0.60

The value of the rights attached to each existing share is $\dfrac{£0.60}{3} = £0.20$. We will

assume that a shareholder is able to sell his rights for £0.20 per existing share held.

(a)	If the shareholder sells all his rights	£
	Sale value of rights (900 x £0.20)	180
	Market value of his 900 shares, ex rights (x £3.80)	3,420
	Total wealth	3,600
	Total value of 900 shares cum rights (x £4)	3,600

The shareholder would neither gain nor lose wealth. He would not be required to provide any additional funds to the company, but his shareholding as a proportion of the total equity of the company will be lower.

(b)   If the shareholder exercises one half of the rights (i.e buys $\dfrac{450}{3} = 150$ shares at £3.20) and sells the other half

	£
Sale value of rights (450 x £0.20)	90
Market value of his 1,050 shares, ex rights (x £3.80)	3,990
	4,080
Total value of 900 shares cum rights (x £4)	3,600
Additional investment (150 x £3.20)	480
	4,080

The shareholder would neither gain nor lose wealth, although he will have increased his investment in the company by £480.

(c)   If the shareholder does nothing, but all other shareholders either exercise their rights or sell them, he will lose wealth as follows:

	£
Market value of 900 shares cum rights (x £4)	3,600
Market value of 900 shares ex rights (x £3.80)	3,420
Loss in wealth	180

It therefore follows that the shareholder, to protect his existing investment, should either exercise his rights or sell them to another investor.

QUESTION THREE

(a)   Richardo Ltd Industry

Ratio				
Current ratio =	Current Asset / Current Liabilities	$\frac{480 + 640 + 2080}{860 + 840}$	= 1.88	2.5 times
Acid test	current.Assets – stoc / Current liabilities	$\frac{3200 - 2080}{1700}$	= 0.66	1.1 times
Stock turnover =	Cost of sales / Average/closing stock	$\frac{3600}{2080}$	= 1.73	2.4 times
Total assets turnover =	Sales / Total Assets	$\frac{6000}{4800}$	= 1.25	1.4 times
Times interest earning ratio =	EBIT / Interest charges	$\frac{444.4 + 23516}{235.6}$	= 2.89	3.5 times
Net profit margin =	Net profit x 100 / Sales	$\frac{266.64}{4,800}$ x 100	= 4.44%	4.0%
Return on investment =	Net profits x 100 / Total Assets	$\frac{266.64}{4800}$ x 100	= 5.60%	5.6%
Total assets to equity =	Total Assets / Equity	$\frac{4800}{1500}$	= 3.2 times	3.0 times
Return on equity =	Net profits / Equity	$\frac{266.64}{1500}$ x 100	= 17.8^	16.8%

(b)   (i) Liquidity position
- This is shown by current and acid test ratios
- Both ratios are lower than industrial average
- This could indicate a poor working capital policy with high liquidity risk

(ii)   Financial risk
- This is shown by gearing ratios in particular times interest earned ratio
- The ratio is lower than industrial average indicating high interest charges (high gearing) or low gearing profits. The gearing (debt – equity ratio) is $\frac{1600}{1500}$ =1.07 times which is relatively high.
- The firm is financing most of its assets using borrowed debt capital.

(iii)   Overall performance
- The performance is shown by profitability ratios which include net profit margin, return on equity and return on investment. The ratios are higher than industrial average.
- The firm is therefore able to generate high returns on its capital and sales. The firm has high profitability yet its financial risk and gearing are high. It is therefore a high risk, high return investment.

QUESTION FOUR

(a)   Factoring:
- Debtors = Sh.320,000 p.m
- Service fees = 2% x 32,000 = 6,400
- Reserve = 5% x 320,000 = 16,000
- Interest charges = 15% (32,000 – 16,000 – 6,400) x $\dfrac{30}{360}$ = 3,720

Amount to advance = 320,000 – 16,000 – 6,400 – 3,720 = 293,880

<u>Loan secured by debtors (pledging)</u>

80% x 320,000	=	256,000
Less 6% x 256,000 compensating balancing	=	15,360
Less interest 30%x256,000x $\dfrac{30}{360}$	=	<u>6,400</u>
Amount to advance	=	<u>234,240</u>

(b)   Factoring:

Service fees p.a.	=	$6,400x\dfrac{360}{30}$	=	76,800
Interest charges p.a	=	$3,720x\dfrac{360}{30}$	=	<u>44,640</u>
Total annual charges			=	<u>121,440</u>
Amount to advance			=	<u>293,800</u>

Effective % annual cost = $\dfrac{121,440}{293,800}$ x100   =   41.3%

Pledging:

Annual interest charges	=	$6,400x\dfrac{360}{30}$	=	76,800
Amount to advance			=	234,240

% annual cost   = $\dfrac{76,800}{234,240}$ x100   =   32.8%

(c)   Pledging is preferable because it has lower effective annual cost.

QUESTION FIVE

(a)   Net book value (NBV) after 2 years =

$$720,000 - \left(2years X \frac{720,000}{12years} \right) = 600,000$$. This will be depreciated over the remaining 10 years.

Increamental initial capital:

Cost of new asset	750,000
Less market value of old	(160,000)
Add: incremental working capital (15,000 – 50,000)	100,000
Tax effect on disposal of old asset	
Market value of old asset	160,000
Net book value	(600,000)
Loss on disposal	440,000
Tax shield = 40% x 440,000	(176,000)
Increamental initial capital	514,000

- Incremental depreciation

$$\text{New asset} = \frac{750,000 - 100,000}{10years} = 65,000$$

$$\textbf{Less } \text{old asset} = \frac{600,000 - 0}{10years} = 60,000$$

Increamental depreciation p.a. = 5,000

- Incremental cash flows

	Years 1 – 10 p.a
Savings in costs	100,000
Increase in sales 10,100 – 10,000	100,000
EBDT	200,000
Less increamental depreciation	5,000
EBT	195,000
Less tax @40%	78,000
EAT	117,000
Add depreciation	5,000
	122,000

Terminal cash flows =

Salvage value	100,000
Incremental net working capital	100,000
	200,000

NPV analysis
P.V of annual cash flows @ 12% for 10 years

122,000 x 5.650 =	689,300
P.V of terminal cash flows	
200,000 x PVIF12%,10 = 200,000 x 0.322	64,400

Increamental P.V of cash flows	753,700
Less increamental initial capital	514,000
Increamental NPV	239,700
Replace the machine	

(b)   Other factors:
- Technological changes and its effects on new machine
- Risk inherent in the use of new machine
- Availability of spare parts for new asset
- Availability of capital
- Uncertainty and accuracy of cash flow estimates
- Demand in the market to absorb extra production.

SOLUTIONS

REVISION PAPER 5

QUESTION ONE

(a)   Development banks and specialized financial institutions:

-        There are some sectors in the economy that may not secure adequate funds
         from commercial banks for various reasons.
         (a)   May take a long time to realize returns
         (b)   High risk associated with such sectors
         (c)   Unattractive/low returns
         (d)   Uncertainty or highly volatile returns
         (e)   Require heavy investment in infrastructure.

-        These sectors include:
         (a)   Tourism
         (b)   Agriculture
         (c)   Rural housing
         (d)   Rural enterprises
         (e)   Small commercial businesses e.g jua kali etc.

-        Such sectors e.g agriculture and tourism are essential for a balanced economic
         growth and development.
-        The government has thus established financial institutions to cater specifically
         for these otherwise unattractive but essential sectors. They include:
         (a)   Industrial development bank (IDB) – give loans for industrial
                  development in Kenya
         (b)   Development Finance Company of Kenya (DFCK) – to finance
                  various projects which will spur economic development and create
                  employment.
         (c)   Kenya Industrial Estate (KIE) – this is a branch of Industrial and
                  Commercial Development Co-operation (ICDC) dealing with
                  Industrial development.
         (d)   Agriculture Finance Co-operation (AFC)
         (e)   Post Bank – to mobilize rural savings
         (f)   National Housing Co-operation – for development of houses to ensure
                  shelter for everyone.
         (g)   Kenya Tourism development co-operation (KTDC) for promotion of
                  Tourism in Kenya.

(b)   **Advantages/functions/case for development financial institutions**
         1.   They provide venture capital
         2.   They provide facilities for large lending
         3.   They provide technical expertise and support emerging projects transferable
                  from other sectors of development economies.
         4.   They are risk capital providers in areas which are not attractive to commercial
                  banks and other major lenders due to risk involved.
         5.   They carry out feasibility study to evaluate viability of projects.

**FINANCIAL
MANAGEMENT**

Case against specialized institutions and development banks

1. They are being phased out by globalization and liberalization where needy sectors can easily get expertise from outside.
2. Commercial banks have now matured up to provide capital for all sectors.
3. They were only useful during periods of foreign exchange restriction.
4. Their performance has been wanting and they have largely failed to achieve the goal/purpose they were intended for.
5. Hey increase government spending.

QUESTION TWO

(a)   **Advantages of Investing in Shares**

1.   **Income in form of dividends**
     When you have shares of a company you become a part-owner of that company and therefore you will be entitled to get a share of the profit of the company which come in form of dividends. Furthermore, dividends attract a very low withholding tax of 5% only.

2.   **Profits from capital appreciation**
     Share prices change with time, and therefore when prices of given shares appreciate, shareholders could take advantage of this increase and set their shares at a profit. Capital gains are not taxed in Kenya.

3.   **Share certificate can be used as a collateral**
     A share certificate represents a certain amount of assets of the company is which a shareholder has invested. Therefore this certificate is a valuable property which is acceptable to many banks and financial institutions as security, or collateral against which an investor can get a loan.

4.   **Shares are easily transferable**
     The process of acquiring or selling shares is fairly simple, inexpensive and swift and therefore an investor can liquidate shares at any moment to suit his convenience.

5.   **Availability of Investment Advice**
     Although the stock market may appear complex and remote to many people, positive advise and guidance could be provided by the people, stockbrokers and other investment advisors. Therefore, an investor can still benefit from trading in shares even though he may not be having the technical expertise relevant to the stock market.

6.   **Participating in company decisions**
     By buying shares and therefore becoming a part-owner in an enterprise, a shareholder gets the right to participate in making decisions about how the company is managed. Shareholders elect the directors at the Company"s Annual General Meetings, whereby the voting power is determined by the number of shares an investor holds since the general rule is that one share is equal to one vote.

(b)   **Timing of investment at Stock Exchange**
The ideal way of making profits at the stock exchange is to buy at the bottom of the market (lowest MPS) and sell at the top of the market (highest MPS). The greatest

problem however is that no one can be sure when the market is at its bottom or at its top (prices are lowest and highest)

Systems have been developed to indicate when shares should be purchased and when they should be sold. These systems are **Dow theory** and **Hatch system**

1. **Dow Theory**

   This theory depends on profiting of secondary movement of prices on a chart. The principal objective is to discover when there is a change in the primary movement.

   - This is determined by the behaviour of secondary movement but tertiary movements are ignored. E.g in a bull market, the rise of prices is greater than the fall of prices.

   - In a bear market the opposite is the case i.e the fall is greater than the rise.

   - In a bear market the volume of the business being done at a certain stage can also be used to interpret the state of the market.

   - Basically, it is maintained that if the volume increases along with rising prices, the signs are bullish and if the volume increases with falling prices, they are bearish.

2. **Hatch System**

   This is an automatic system based on the assumption that when investors sell at a certain percentage below the **top of the market** and buys at a certain percentage **above the market bottom**, they are doing as well as can reasonably be expected. This system can be applied to an index of a group of shares or shares of individual companies e.g Dow Jones and NASDAQ index of America.

QUESTION THREE

(a) The minimum amount of working capital represents permanent working capital. Any amount in excess of this represents temporary/seasonal/variable working capital.

Month	Total working Capital Sh."000"	Permanent Sh."000"	Temporary Sh."000"
January	2,800	2,800	-
February	2,800	2,800	-
March	4,200	2,800	1,400
April	5,600	2,800	2,800
May	8,400	2,800	5,600
June	12,600	2,800	9,800
July	16,800	2,800	14,000
August	19,400	2,800	16,600
September	12,600	2,800	9,800
October	7,000	2,800	4,200
November	5,600	2,800	2,800
December	4,200	2,800	1,400
	102,000	33,600	68,400

(b)   Average = $\dfrac{33,600}{12}$ = 2,800 for permanent

            = $\dfrac{68,400}{12}$ = 5,700 for temporary

(c)   Aggressive policy involves the use of short term financing for total working capital.

   Therefore cost =   20% x Average working capital
                  =   20% x (2,800 + 5,700)   =   1,700 p.a

   Conservative policy involves use of long term financing for total working capital.

   Therefore cost =   25% x average working capital
                  =   25% x (2,800 x 5,700)   =   2,125 p.a.

QUESTION FOUR

(a)   Real rate = risk free rate – inflation rate.

   Risk free rate is the interest rate on Treasury bills

   Real rate   =   12% - 8%   =   4%

(b)   The minimum required rate of return for each investor is the cost of each capital component to the firm.

   Cost of preference shares, Kp

   Since market price of a preference share is equal to par value then Kp = coupon rate = 15%.

   Cost of debentures = (Kd)

   The debentures have a maturity period of 20 years (1985 – 2005). Therefore Kd is equal to yield to maturity (YTM)

M	=	Maturity/redemption value = Sh.1,000
Vd	=	Market value = Sh.950
n	=	Interest period = 20 years
Int	=	Interest after tax = 16%(1 – 0.4) x 1000 = Sh.96

$$\text{Therefore } K_d = \frac{Int + (M - Vd)\frac{1}{n}}{(M + Vd)\frac{1}{2}} = \frac{96 + (1000 - 950)\frac{1}{20}}{(1000 + 950)\frac{1}{2}}$$

$$= \frac{101}{975} \times 100 = 10\%$$

Cost of equity K_e

Since growth rate is given, use dividend yield growth model to determine K_e

$$K_e = \frac{d_0(1 + g)}{P_0} + g$$

Where:	g	=	growth rate = 10%
	P_0	=	Current market price = Sh.75
	d_0	=	dividend per share for last year = 2.50 + 3.00 = 5.50

$$K_e = \frac{5.50(1.10)}{75} + 0.10 = 0.18 \times 100 = 18\%$$

(c)   Overall or composite cost of Capital is the weighted average cost of capital (WACC). It is based on market values.

Market value of equity	=	Sh.75 x $\dfrac{Sh.25m}{Sh.10par}$	(E)	Sh.187.5m

Market value of debentures	=	Sh.950 x $\dfrac{Sh.31.250m}{Sh.1000par}$	(D)	Sh.29.7m

Market value of preference shares =	Par value (f)	=	Sh.12.5m

Total market value, V = E + D + P   Sh.229.7m

K_e	=	18%
K_d	=	10%
K_p	=	15%

$$\text{WACC} = K_e\left(\frac{E}{V}\right) + K_d\left(\frac{D}{V}\right) + K_p\left(\frac{P}{V}\right)$$

$$= \quad 18\left(\frac{187.5}{229.7}\right) + 10\left(\frac{29.7}{229.7}\right) + 15\left(\frac{12.5}{229.5}\right) = 16.80\%$$

(d)   **Weaknesses of WACC**

- It is based on assumption that the firm has an optimal capital structure (mix of debt and equity) which is not achievable in real world.
- Market values of capital will constantly change over time hence change in WACC.
- It can be used as a discounting rate on assumption that the projects risk is equal to the firm"s business risk otherwise it will require some adjustment.
- It is based on historical data e.g growth rate in dividends is based on past date. The growth rate cannot be constant p.a. in perpetuity.

QUESITON FIVE

(a)   The range of stakeholders may include: shareholders, directors/managers, lenders, employees, suppliers and customers. These groups are likely to share in the wealth and risk generated by a company in different ways and thus conflicts of interest are likely to exist. Conflicts also exist not just between groups but within stakeholder groups. This might be because sub groups exist e.g. preference shareholders and equity shareholders. Alternatively it might be that individuals have different preferences (e.g to risk and return, short term and long term returns) within a group. Good corporate governance is partly about the resolution of such conflicts. Stakeholder financial and other objectives may be identified as follows:

Shareholders
Shareholders are normally assumed to be interested in wealth maximization. This, however, involves consideration of potential return and risk. Where a company is listed this can be viewed in terms of the share price returns and other market-based ratios using share price (e.g price earnings ratio, dividend yield, earnings yield).

Where a company is not listed, financial objectives need to be set in terms of accounting and other related financial measures. These may include: return of capital employed, earnings per share, gearing, growth, profit margin, asset utilization, market share. Many other measures also exist which may collectively capture the objectives of return and risk.

Shareholders may have other objectives for the company and these can be identified in terms of the interests of other stakeholder groups. Thus, shareholders, as a group, might be interested in profit maximization; they may also be interested in the welfare of their employees, or the environmental impact of the company"s operations.

Directors and managers
While directors and managers are in essence attempting to promote and balance the interests of shareholders and other stakeholders it has been argued that they also promote their own interests as a separate stakeholder group.

This arises from the divorce between ownership and control where the behaviour of managers cannot be fully observed giving them the capacity to take decisions which are consistent with their own reward structures and risk preferences. Directors may thus be interested in their own remuneration package. In a non-financial sense, they may be interested in building empires, exercising greater control, or positioning themselves for

their next promotion. Non-financial objectives are sometimes difficulty to separate from their financial impact.

Lenders

Lenders are concerned to receive payment of interest and ultimate repayment of capital. They do not share in the upside of very successful organizational strategies as the shareholders do. They are thus likely to be more risk averse than shareholders, with an emphasis on financial objectives that promote liquidity and solvency with low risk (e.g gearing, interest cover, security, cash flow).

Employees

The primary interest of employees is their salary/wage and security of employment. To an extent there is a direct conflict between employees and shareholders as wages are a cost to the company and a revenue to employees.

Performance related pay based upon financial or other quantitative objectives may, however, go some way toward drawing the divergent interest together.

Suppliers and customers

Suppliers and customers are external stakeholders with their own set of objectives (profit for the supplier and, possibly, customer satisfaction with the good or service from the customer) that, within a portfolio of businesses, are only partly dependent upon the company in question. Nevertheless it is important to consider and measure the relationship in term of financial objectives relating to quality, lead times, volume of business and a range of other variables in considering any organizational strategy.

(b) Bond covenants might include:

(i) An asset covenant. This would govern the company"s acquisition, use and disposal of assets. This could be for specified types of assets, or assets in general.

(ii) Financing covenant. This covenant often defines the type and amount of additional debt that the company can issue, and its ranking and potential claim on assets in case of future default.

(iii) Dividend covenant. A dividend restricts the amount of dividend that the company is able to pay. Such covenants might also be extended to share repurchases.

(iv) Financial ratio covenants, fixing the limit of key ratios such as the gearing level, interest cover, net working capital, or a minimum ratio of tangible assets to total debt.

(v) Merger covenant, restricting future merger activity of the company.

(vi) Investment covenant, concerned with the company"s future investment policy.

(vii) Sinking fund covenant whereby the company makes payments, typically to the bond trustees, who might gradually repurchase bonds in the open market, or build up a fund to redeem bonds.

There will often also be a „bonding covenant" that describes the mechanisms by which the above covenants are to be monitored and enforced. This often includes an independent audit and the appointment of a trustee representing the interests of the bondholders.

From the company"s perspective the major disadvantages of covenants is that they restrict the freedom of action of the managers, and could prevent viable investments, or

mergers from occurring. They also necessitate monitoring and other costs. However, covenants are also of value to companies. Without covenants the company might not be able to raise as much funds in the form of debt, as lenders would not be prepared to take the risk. Even if lenders were to take the risk they would require a higher default premium (higher interest rates) in order to compensate for the risk. The existence of covenants therefore reduces the cost of borrowing from a company.

Table A - 1 **Present Value of $1 Due at the End of n Periods**

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%	Period
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8772	0.8696	0.8621	0.8475	0.8333	0.8065	0.7813	0.7576	0.7353	1
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.7972	0.7695	0.7561	0.7432	0.7182	0.6944	0.6504	0.6104	0.5739	0.5407	2
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7118	0.6750	0.6575	0.6407	0.6086	0.5787	0.5245	0.4768	0.4348	0.3975	3
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6355	0.5921	0.5718	0.5523	0.5158	0.4823	0.4230	0.3725	0.3294	0.2923	4
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5674	0.5194	0.4972	0.4761	0.4371	0.4019	0.3411	0.2910	0.2495	0.2149	5
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5066	0.4556	0.4323	0.4104	0.3704	0.3349	0.2751	0.2274	0.1890	0.1580	6
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4523	0.3996	0.3759	0.3538	0.3139	0.2791	0.2218	0.1776	0.1432	0.1162	7
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4039	0.3506	0.3269	0.3050	0.2660	0.2326	0.1789	0.1388	0.1085	0.0854	8
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3606	0.3075	0.2843	0.2630	0.2255	0.1938	0.1443	0.1084	0.0822	0.0628	9
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3220	0.2697	0.2472	0.2267	0.1911	0.1615	0.1164	0.0847	0.0623	0.0462	10
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.2875	0.2366	0.2149	0.1954	0.1619	0.1346	0.0938	0.0662	0.0472	0.0340	11
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2567	0.2076	0.1869	0.1685	0.1372	0.1122	0.0757	0.0517	0.0357	0.0250	12
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2292	0.1821	0.1625	0.1452	0.1163	0.0935	0.0610	0.0404	0.0271	0.0184	13
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2046	0.1597	0.1413	0.1252	0.0985	0.0779	0.0492	0.0316	0.0205	0.0135	14
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.1827	0.1401	0.1229	0.1079	0.0835	0.0649	0.0397	0.0247	0.0155	0.0099	15
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1631	0.1229	0.1069	0.0980	0.0708	0.0541	0.0320	0.0193	0.0118	0.0073	16
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1456	0.1078	0.0929	0.0802	0.0600	0.0451	0.0258	0.0150	0.0089	0.0054	17
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1300	0.0946	0.0808	0.0691	0.0508	0.0376	0.0208	0.0118	0.0068	0.0039	18
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1161	0.0829	0.0703	0.0596	0.0431	0.0313	0.0168	0.0092	0.0051	0.0029	19
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1037	0.0728	0.0611	0.0514	0.0365	0.0261	0.0135	0.0072	0.0039	0.0021	20

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21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.0926	0.0638	0.0531	0.0443	0.0309	0.0217	0.0109	0.0056	0.0029	0.0016	21
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.0826	0.0560	0.0462	0.0382	0.0262	0.0181	0.0088	0.0044	0.0022	0.0012	22
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0738	0.0491	0.0402	0.0329	0.0222	0.0151	0.0071	0.0034	0.0017	0.0008	23
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0659	0.0431	0.0349	0.0284	0.0188	0.0126	0.0057	0.0027	0.0013	0.0006	24
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0588	0.0378	0.0304	0.0245	0.0160	0.0105	0.0046	0.0021	0.0010	0.0005	25
26	0.7720	0.5976	0.4637	0.3604	0.2812	0.2198	0.1722	0.1352	0.1064	0.0839	0.0525	0.0331	0.0264	0.0211	0.0135	0.0087	0.0037	0.0016	0.0007	0.0003	26
27	0.7644	0.5859	0.4502	0.3468	0.2678	0.2074	0.1609	0.1252	0.0976	0.0763	0.0469	0.0291	0.0230	0.0182	0.0115	0.0073	0.0030	0.0013	0.0006	0.0002	27
28	0.7568	0.5744	0.4371	0.3335	0.2551	0.1956	0.1504	0.1159	0.0895	0.0693	0.0419	0.0255	0.0200	0.0157	0.0097	0.0061	0.0024	0.0010	0.0004	0.0002	28
29	0.7493	0.5631	0.4243	0.3207	0.2429	0.1846	0.1406	0.1073	0.0822	0.0630	0.0374	0.0224	0.0174	0.0135	0.0082	0.0051	0.0020	0.0008	0.0003	0.0001	29
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0334	0.0196	0.0151	0.0116	0.0070	0.0042	0.0016	0.0006	0.0002	0.0001	30
35	0.7059	0.5000	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0189	0.0102	0.0075	0.0055	0.0030	0.0017	0.0005	0.0002	0.0001	*	35
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0107	0.0053	0.0037	0.0026	0.0013	0.0007	0.0002	0.0001	*	*	40
45	0.6391	0.4102	0.2644	0.1712	0.1113	0.0727	0.0476	0.0313	0.0207	0.0137	0.0061	0.0027	0.0019	0.0013	0.0006	0.0003	0.0001	*	*	*	45
50	0.6080	0.3715	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0035	0.0014	0.0009	0.0006	0.0003	0.0001	*	*	*	*	50
55	0.5785	0.3365	0.1968	0.1157	0.0683	0.0406	0.0242	0.0145	0.0087	0.0053	0.0020	0.0007	0.0005	0.0003	0.0001	*	*	*	*	*	55

Table A - 2 **Present Value of an Annuity**

Number of Periods	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	Number of Periods
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8772	0.8696	0.8621	0.8475	0.8333	0.8065	0.7813	0.7576	1
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.6901	1.6467	1.6257	1.6052	1.5656	1.5278	1.4568	1.3916	1.3315	2
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4018	2.3216	2.2832	2.2459	2.1743	2.1065	1.9813	1.8684	1.7663	3
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.0373	2.9137	2.8550	2.7982	2.6901	2.5887	2.4043	2.2410	2.0957	4
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6048	3.4331	3.3522	3.2743	3.1272	2.9906	2.7454	2.5320	2.3452	5
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.1114	3.8887	3.7845	3.6847	3.4976	3.3255	3.0205	2.7594	2.5342	6
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.5638	4.2883	4.1604	4.0386	3.8115	3.6046	3.2423	2.9370	2.6775	7
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	4.9676	4.6389	4.4873	4.3436	4.0776	3.8372	3.4212	3.0758	2.7860	8
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.3282	4.9464	4.7716	4.6065	4.3030	4.0310	3.5655	3.1842	2.8681	9
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.6502	5.2161	5.0188	4.8332	4.4941	4.1925	3.6819	3.2689	2.9304	10
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	5.9377	5.4527	5.2337	5.0286	4.6560	4.3271	3.7757	3.3351	2.9776	11
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.1944	5.6603	5.4206	5.1971	4.7932	4.4392	3.8514	3.3868	3.0133	12
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.4235	5.8424	5.5831	5.3423	4.9095	4.5327	3.9124	3.4272	3.0404	13
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.6282	6.0021	5.7245	5.4675	5.0081	4.6106	3.9616	3.4587	3.0609	14
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	6.8109	6.1422	5.8474	5.5755	5.0961	4.6755	4.0013	3.4834	3.0764	15
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	6.9740	6.2651	5.9542	5.6685	5.1624	4.7296	4.0333	3.5026	3.0882	16
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.1196	6.3729	6.0472	5.7487	5.2223	4.7746	4.0591	3.5177	3.0971	17
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.2497	6.4674	6.1280	5.8178	5.2732	4.8122	4.0799	3.5294	3.1039	18
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.3658	6.5504	6.1982	5.8775	5.3162	4.8435	4.0967	3.5386	3.1090	19

20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.4694	6.6231	6.2593	5.9288	5.3527	4.8696	4.1103	3.5458	3.1129	20
21	18.8570	17.0112	15.4150	14.0292	12.8212	11.7641	10.8355	10.0168	9.2922	8.6487	7.5620	6.6870	6.3125	5.9731	5.3837	4.8913	4.1212	3.5514	3.1158	21
22	19.6604	17.6580	15.9369	14.4511	13.1630	12.0416	11.0612	10.2007	9.4424	8.7715	7.6446	6.7429	6.3587	6.0113	5.4099	4.9094	4.1300	3.5558	3.1180	22
23	20.4558	18.2922	16.4436	14.8568	13.4886	12.3034	11.2722	10.3711	9.5802	8.8832	7.7184	6.7921	6.3988	6.0442	5.4321	4.9245	4.1371	3.5592	3.1197	23
24	21.2434	18.9139	16.9355	15.2470	13.7986	12.5504	11.4693	10.5288	9.7066	8.9847	7.7843	6.8351	6.4338	6.0726	5.4509	4.9371	4.1428	3.5619	3.1210	24
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	7.8431	6.8729	6.4641	6.0971	5.4669	4.9476	4.1474	3.5640	3.1220	25
26	22.7952	20.1210	17.8768	15.9828	14.3752	13.0032	11.8258	10.8100	9.9290	9.1609	7.8957	6.9061	6.4906	6.1182	5.4804	4.9563	4.1511	3.5656	3.1227	26
27	23.5596	20.7069	18.3270	16.3296	14.6430	13.2105	11.9867	10.9352	10.0266	9.2372	7.9426	6.9352	6.5135	6.1364	5.4919	4.9636	4.1542	3.5669	3.1233	27
28	24.3164	21.2813	18.7641	16.6631	14.8981	13.4062	12.1371	11.0511	10.1161	9.3066	7.9844	6.9607	6.5335	6.1520	5.5016	4.9697	4.1566	3.5679	3.1237	28
29	25.0658	21.8444	19.1885	16.9837	15.1411	13.5907	12.2777	11.1584	10.1983	9.3696	8.0218	6.9830	6.5509	6.1656	5.5098	4.9747	4.1585	3.5687	3.1240	29
30	25.8077	22.3965	19.6004	17.2920	15.3725	13.7648	12.4090	11.2578	10.2737	9.4269	8.0552	7.0027	6.5660	6.1772	5.5168	4.9789	4.1601	3.5693	3.1242	30
35	29.4086	24.9986	21.4872	18.6646	16.3742	14.4982	12.9477	11.6546	10.5668	9.6442	8.1755	7.0700	6.6166	6.2153	5.5386	4.9915	4.1644	4.5708	3.1248	35
40	32.8347	27.3555	23.1148	19.7929	17.1591	15.0463	13.3317	11.9246	10.7574	9.7791	8.2438	7.1050	6.6418	6.2335	5.5482	4.9966	4.1659	3.5712	3.1250	40
45	36.0945	29.4902	24.5187	20.7200	17.7741	15.4558	13.6055	12.1084	10.8812	9.8628	8.2825	7.1232	6.6543	6.2421	5.5523	4.9986	4.1664	3.5714	3.1250	45
50	39.1961	31.4236	25.7298	21.4822	18.2559	15.7619	13.8007	12.2335	10.9617	9.9148	8.3045	7.1327	6.6605	6.2463	5.5541	4.9995	4.1666	3.5714	3.1250	50
55	42.1472	33.1748	26.7744	22.1086	18.6335	15.9905	13.9399	12.3186	11.0140	9.9471	8.3170	7.1376	6.6636	6.2482	5.5549	4.9998	4.1666	3.5714	3.1250	55

Table A-3 **Future Value of $1 at the End of n Periods**

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%	Period
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1200	1.1400	1.1500	1.1600	1.1800	1.2000	1.2400	1.2800	1.3200	1.3600	1
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2544	1.2996	1.3225	1.3456	1.3924	1.4400	1.5376	1.6384	1.7424	1.8496	2
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.4049	1.4815	1.5209	1.5609	1.6430	1.7280	1.9066	2.0972	2.3000	2.5155	3
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5735	1.6890	1.7490	1.8106	1.9388	2.0736	2.3642	2.6844	3.0360	3.4210	4
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.7623	1.9254	2.0114	2.1003	2.2878	2.4883	2.9316	3.4360	4.0075	4.6526	5
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.9738	2.1950	2.3131	2.4364	2.6996	2.9860	3.6352	4.3980	5.2899	6.3275	6
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.2107	2.5023	2.6600	2.8262	3.1855	3.5832	4.5077	5.6295	6.9826	8.6054	7
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926	2.1436	2.4760	2.8526	3.0590	3.2784	3.7589	4.2998	5.5895	7.2058	9.2170	11.703	8
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.7731	3.2519	3.5179	3.8030	4.4355	5.1598	6.9310	9.2234	12.166	15.917	9
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	3.1058	3.7072	4.0456	4.4114	5.2338	6.1917	8.5944	11.806	16.060	21.647	10
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.4785	4.2262	4.6524	5.1173	6.1759	7.4301	10.657	15.112	21.199	29.439	11
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.8960	4.8179	5.3503	5.9360	7.2876	8.9161	13.215	19.343	27.983	40.037	12
13	1.1381	1.2936	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658	3.4523	4.3635	5.4924	6.1528	6.8858	8.5994	10.699	16.386	24.759	36.937	54.451	13
14	1.1495	1.3195	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.8871	6.2613	7.0757	7.9875	10.147	12.839	20.319	31.691	48.757	74.053	14
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	5.4736	7.1379	8.1371	9.2655	11.974	15.407	25.196	40.565	64.359	100.71	15
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5950	6.1304	8.1372	9.3576	10.748	14.129	18.488	31.243	51.923	84.954	136.97	16
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	6.8660	9.2765	10.761	12.468	16.672	22.186	38.741	66.461	112.14	186.28	17
18	1.1961	1.4282	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171	5.5599	7.6900	10.575	12.375	14.463	19.673	26.623	48.039	85.071	148.02	253.34	18
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	8.6128	12.056	14.232	16.777	23.214	31.948	59.568	108.89	195.39	344.54	19
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	9.6463	13.743	16.367	19.461	27.393	38.338	73.864	139.38	257.92	468.57	20

21	1.2324	1.5157	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088	7.4002	10.804	15.668	18.822	22.574	32.324	46.005	91.592	178.41	340.45	637.26	21
22	1.2447	1.5460	1.9161	2.3699	2.9253	3.6035	4.4304	5.4365	6.6586	8.1403	12.100	17.861	21.645	26.186	38.142	55.206	113.57	228.36	449.39	866.67	22
23	1.2572	1.5769	1.9736	2.4647	3.0715	3.8197	4.7405	5.8715	7.2579	8.9543	13.552	20.362	24.891	30.376	45.008	66.247	140.83	292.30	593.20	1178.7	23
24	1.2697	1.6084	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111	9.8497	15.179	23.212	28.625	35.236	53.109	79.497	174.63	374.14	783.02	1603.0	24
25	1.2824	1.6406	2.0938	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.835	17.000	26.462	32.919	40.874	62.669	95.396	216.54	478.90	1033.6	2180.1	25
26	1.2953	1.6734	2.1566	2.7725	3.5557	4.5494	5.8074	7.3964	9.3992	11.918	19.040	30.167	37.857	47.414	73.949	114.48	268.51	613.00	1364.3	2964.9	26
27	1.3082	1.7069	2.2213	2.8834	3.7335	4.8223	6.2139	7.9881	10.245	13.110	21.325	34.390	43.535	55.000	87.260	137.37	332.95	784.64	1800.9	4032.3	27
28	1.3213	1.7410	2.2879	2.9987	3.9201	5.1117	6.6488	8.6271	11.167	14.421	23.884	39.204	50.066	63.800	102.97	164.84	412.86	1004.30	2377.2	5483.9	28
29	1.3345	1.7758	2.3566	3.1187	4.1161	5.4184	7.1143	9.3173	12.172	15.863	26.750	44.693	57.575	74.009	121.50	197.81	511.95	1285.6	3137.9	7458.1	29
30	1.3478	1.8114	2.4273	3.2434	4.3219	5.7435	7.6123	10.063	13.268	17.449	29.960	50.950	66.212	85.850	143.37	237.38	634.82	1645.5	4142.1	10143	30
40	1.4889	2.2080	3.2620	4.8010	7.0400	10.286	14.974	21.725	31.409	45.259	93.051	188.88	267.86	378.72	750.38	1469.8	5455.9	19427	66521	*	40
50	1.6446	2.6916	4.3839	7.1067	11.467	18.420	29.457	46.902	74.358	117.39	289.00	700.23	1083.7	1670.7	3927.4	9100.4	46890	*	*	*	50
60	1.8167	3.2810	5.8916	10.520	18.679	32.988	57.946	101.26	176.03	304.48	897.60	2595.9	4384.0	7370.2	20555	56348	*	*	*	*	60

Table A-4 **Future Value of Annuity**

Number of Periods	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%	Number of Periods
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1
2	2.0100	2.0200	2.0300	2.0400	2.0500	2.0600	2.0700	2.0800	2.0900	2.1000	2.1200	2.1400	2.1500	2.1600	2.1800	2.2000	2.2400	2.2800	2.3200	2.3600	2
3	3.0301	3.0604	3.0909	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100	3.3744	3.4396	3.4725	3.5056	3.5724	3.6400	3.7776	3.9184	4.0624	4.2096	3
4	4.0604	4.1216	4.1836	4.2465	4.3101	4.3746	4.4399	4.5061	4.5731	4.6410	4.7793	4.9211	4.9934	5.0665	5.2154	5.3680	5.6842	6.0156	6.3624	6.7251	4
5	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847	6.1051	6.3528	6.6101	6.7424	6.8771	7.1542	7.4416	8.0484	8.6999	9.3983	10.146	5
6	6.1520	6.3081	6.4684	6.6330	6.8019	6.9753	7.1533	7.3359	7.5233	7.7156	8.1152	8.5355	8.7537	8.9775	9.4420	9.9299	10.980	12.136	13.406	14.799	6
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3938	8.6540	8.9228	9.2004	9.4872	10.089	10.730	11.067	11.414	12.142	12.916	14.615	16.534	18.696	21.126	7
8	8.2857	8.5830	8.8923	9.2142	9.5491	9.8975	10.260	10.637	11.028	11.436	12.300	13.233	13.727	14.240	15.327	16.499	19.123	22.163	25.678	29.732	8
9	9.3685	9.7546	10.159	10.583	11.027	11.491	11.978	12.488	13.021	13.579	14.776	16.085	17.786	17.519	19.086	20.799	24.712	29.369	34.875	41.435	9
10	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193	15.937	17.549	19.337	20.304	21.321	23.521	25.959	31.643	38.593	47.062	57.352	10
11	11.567	12.169	12.808	13.486	14.207	14.972	15.784	16.645	17.560	18.531	20.655	23.045	24.349	25.733	28.755	32.150	40.238	50.398	63.122	78.998	11
12	12.683	13.412	14.192	15.026	15.917	16.870	17.888	18.977	20.141	21.384	24.133	27.271	29.002	30.850	34.931	39.581	50.895	65.510	84.320	108.44	12
13	13.809	14.680	15.618	16.627	17.713	18.882	20.141	21.495	22.953	24.523	28.029	32.089	34.352	36.786	42.219	48.497	64.110	84.853	112.30	148.47	13
14	14.947	15.974	17.086	18.292	19.599	21.015	22.550	24.215	26.019	17.975	32.393	37.581	40.505	43.672	50.818	59.196	80.496	109.61	149.24	202.93	14
15	16.097	17.293	18.599	20.024	21.579	23.276	25.129	27.152	29.361	31.772	37.280	43.842	47.580	51.660	60.965	72.035	100.82	141.30	198.00	276.98	15
16	17.258	18.639	20.157	21.825	23.657	25.673	27.888	20.324	33.003	35.950	42.753	50.980	55.717	60.925	72.939	87.442	126.01	181.87	262.36	377.69	16
17	18.430	20.012	21.762	23.698	25.840	28.213	30.840	33.750	36.974	40.545	48.884	59.118	65.075	71.673	87.068	105.93	157.25	233.79	347.31	514.66	17
18	19.615	21.412	23.414	25.645	28.132	30.906	33.999	37.450	42.301	54.599	55.750	68.394	75.836	84.141	103.74	128.12	195.99	300.25	459.45	700.94	18
19	20.811	22.841	25.117	27.671	30.539	33.760	37.379	41.446	46.018	51.159	63.440	78.969	88.212	98.603	123.41	154.74	244.03	385.32	607.47	954.28	19

20	22.019	24.297	26.870	29.778	33.066	36.786	40.995	45.762	51.160	57.275	72.052	91.025	102.44	115.38	146.63	186.69	303.60	494.21	802.86	1298.8	20
21	23.239	25.783	28.676	31.969	35.719	39.993	44.865	50.423	56.765	64.002	81.699	104.77	118.81	134.84	174.02	225.03	377.46	633.59	1060.8	1767.4	21
22	24.472	27.299	30.537	34.248	38.505	43.392	49.006	55.457	62.873	71.403	92.503	120.44	137.63	157.41	206.34	271.03	469.06	812.00	1401.2	2404.7	22
23	25.716	28.845	32.453	36.618	41.430	46.996	53.436	40.893	69.532	79.543	104.60	138.30	159.28	183.60	244.49	326.24	582.63	1040.4	1850.6	3271.3	23
24	26.973	30.422	34.426	39.083	44.502	50.816	58.177	66.765	76.790	88.497	118.16	158.66	184.17	213.98	289.49	392.48	723.46	1332.7	2443.8	4450.0	24
25	28.243	32.030	36.459	41.646	47.727	54.865	63.249	73.106	84.701	98.347	133.33	181.87	212.79	249.21	342.60	471.98	898.09	1706.8	3226.8	6053.0	25
26	29.526	33.671	38.553	44.312	51.113	59.156	68.676	79.954	93.324	109.18	150.33	208.33	245.71	290.09	405.27	567.38	1114.6	2185.7	4260.4	8233.1	26
27	30.821	35.344	40.710	47.084	54.669	63.706	74.484	87.351	102.72	121.10	169.37	238.50	283.57	337.50	479.22	681.85	1383.1	2798.7	5624.8	11198.0	27
28	32.129	37.051	42.931	49.968	58.403	68.528	80.698	95.339	112.97	134.21	190.70	272.89	327.10	392.50	566.48	819.22	1716.1	3583.3	7425.7	15230.3	28
29	33.450	38.792	45.219	52.966	62.323	73.640	87.347	103.97	124.14	148.63	214.58	312.09	377.17	456.30	669.45	984.07	2129.0	4587.7	9802.9	20714.2	29
30	34.785	40.568	47.575	56.085	66.439	79.058	94.461	113.28	136.31	164.49	241.33	356.79	434.75	530.31	790.95	1181.9	2640.9	5873.2	12941	28172.3	30
40	48.886	60.402	75.401	95.026	120.80	154.76	199.64	259.06	337.88	442.59	767.09	1342.0	1779.1	2360.8	4163.2	7343.9	22729	69377	*	*	40
50	64.463	84.579	112.80	152.67	209.35	290.34	406.53	573.77	815.08	1163.9	2400.0	4994.5	7217.7	10436	21813	45497	*	*	*	*	50
60	81.670	114.05	163.05	237.99	353.58	533.13	813.52	1253.2	1944.8	3034.8	7471.6	18535	29220	46058	*	*	*	*	*	*	60