QUESTION 11
a) Describe the benefits to a country of integrating its financial markets with those of other country.

QUESTION 12
a) Distinguish between primary and secondary securities market.
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 Africa Countries”. This was the opening remark by the guest speaker in a seminar whose theme was “Developing our capital market.”

Required:
i) The advantage of being listed at the stock exchange.
ii) Highlight four factors that may hinder companies from being listed at the stock exchange.

QUESTION 13
a) Briefly explain how the “Dow theory “ views the movement of the market prices of shares traded on a stock exchange.
b) Identify and briefly explain the factors that must be taken into account in the design and construction of a market index for shares.
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) ration 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

QUESTION 14
a) Briefly describe the three forms of capital markets efficiency.
b) Highlight four factors that may underlie the low rate of listing of companies in a stock exchange you are familiar with.

QUESTION 15
(a) Highlight four advantages and disadvantages to a company of being listed on a stock exchange.
(b) In relation to the stock exchange”
   (i) Explain the role of the following members:
   • Floor brokers
   • Market makers
   • Underwriters
   (ii) Explain the meaning of the following terms:
   • Bull and bear markets
   • Bid-ask spread.
   • Short selling.

QUESTION 16
(a) What economic advantages are created by the existence of:
   (i) Primary markets.
   (ii) Secondary markets
   (iii) Portfolio management firms.
(b) Explain how the Capital Authority can ensure:
   (i) Faster growth and development of the Nairobi Stock Exchange or Stock Exchange in your country.
   (ii) Development of other stock exchanges in Kenya or in your country.
Profits for the years were as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Sh. “000”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9,000</td>
</tr>
<tr>
<td>2</td>
<td>6,000</td>
</tr>
<tr>
<td>3</td>
<td>10,000</td>
</tr>
<tr>
<td>4</td>
<td>8,000</td>
</tr>
<tr>
<td>5</td>
<td>17,000</td>
</tr>
</tbody>
</table>

The price earnings (P/E) ratio applicable is 12:1

Required:-
Compute the value of the business using the:
  i) Price-earnings (P/E) ratio method
  ii) Asset method

QUESTION 10

d) The 10% convertible loan stock of Nalyaka Ltd. is quoted at Sh. 142 per Sh.100 par value. The earliest date of conversion is in 4 years’ time at the rate of 30 ordinary shares per Sh.100 nominal loan stock. The share price is currently Sh.4.15. Annual interest on the stock has just been paid.

Required:
(i) The average annual growth rate in the share price that is required for the stockholders to achieve an overall rate of return of 12% a year compounded over the next 4 years, including the proceeds of conversion.
(ii) The implicit conversion premium on the stock.

QUESTION 11

b) Ufanisi Ltd. is experiencing a period of rapid growth. Earnings and dividends are expected to grow at the rate of 5% per annum during the next two years, 13% in the third year and at a constant rate of 6% per annum thereafter. The last dividend paid by the company was sh. 11.50. The company’s required rate of return is 12%.

Required:
i) The value of the equity shares of the company today.
ii) The dividend yield and capital gains yield and total return for year 1 and year 2.

c) Pentagon Ltd. issued a 10 year bond two years ago. The bond has a coupon rate of 13% per annum payable semi-annually. Upon maturity, it will be redeemed at sh. 102 for every Sh. 100 par.
Current liabilities
Accounts payable 4,400
Bank overdraft 5,000
9,400
Working capital 5,800
Net assets 32,000

Financed by:
Ordinary share capital (par value sh. 5) 8,000
Reserves 6,000
12% Bank loans 18,000
Total equity loans 32,000

Required:
a)
   i) The theoretical ex-rights price per share.
   ii) The value of rights per existing share.

b)
   i) List three alternative actions available to the shareholders as regards to the rights issue.
   ii) Determine the effect of each of the alternative actions listed in (b) (i) above on the wealth an investor holding 1,000 shares in the company and hence advise the investor on the best course of action.

June 2008 Question Two A and B

QUESTION 15

c) D. Magana’s investment portfolio comprises 490 shares in ABC Ltd. and sh. 20,000 deposited in a savings account. ABC Ltd. has declared a rights issue of one share for every five shares held at an issue of sh. 20 per share. The current market price per share of ABC Ltd. is sh. 35.

D. Magana would obtain the funds required to exercise the rights issue from the savings account. Similarly, proceeds from the sale of rights issue would be credited to the savings account.

Required:
   i) The value of each right
   ii) Analyze the effect of the rights issue on the value of D. Magana investment portfolio and hence advise him on whether to exercise, sell or ignore the rights issue. Ignore interest on the savings account.

June 2007 Question Two C

QUESTION 16

a)  
   i) Define the term “intrinsic value” with reference to the valuation of ordinary and preference shares
   ii) An investor received a dividend of Sh.1.50 in the current financial year on each of his ordinary shares. The par value per share is Sh.20. The annual growth rate in dividends is 8%. The current market price per share is Sh.1.50 while the investor’s required rate of return is 20% Calculate the intrinsic value of each ordinary share.

QUESTION 17

a) Jasho Ltd paid an ordinary dividend of Sh3.60 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:
QUESTION 20
a) Distinguish between weighted average cost and marginal cost of capital.
b) The following was the capital structure of Fahari Ltd. as at 31 October 2007.

<table>
<thead>
<tr>
<th></th>
<th>Sh.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinary share capital</td>
<td>10.0 million</td>
</tr>
<tr>
<td>12% preference share capital (sh. 20 par)</td>
<td>4.8 million</td>
</tr>
<tr>
<td>10% debentures (sh. 1,000 par)</td>
<td>3.6 million</td>
</tr>
</tbody>
</table>

Additional information:
1. The market prices per ordinary share, preference share and debenture were sh. 45, and sh. 30 and sh. 1,200 respectively on 31 October 2007.
2. The dividend per ordinary share for the year ended 31 October 2006 was sh. 8.00. Dividends are expected to grow at an annual rate of 12 percent.
3. The rate of corporation tax is 30 per cent.

Required:
The weighted average cost of capital (WACC) of Fahari Ltd. Use market value weights

December 2007 Question Three.

QUESTION 21
a) Distinguish between the marginal cost of capital and the weighted average cost of capital.
b) Upendo Ltd. is in the process of raising additional finance. The company’s financial structure comprises ordinary share capital, reference share capital, debenture capital and retained earnings. Each of these sources of finance is analyzed below:

Ordinary Share Capital
- The current market price per share is Sh.80
- The company expects to pay a cash dividend of Sh.6 per share in the next financial year
- The annual rate of growth in dividend per share is 6%
- Flotation costs amounting to Sh.8 per share

11% Preference Share Capital
- The par value per share is Sh.100
- The share are currently trading at par
- Flotation costs amounting to Sh.4 per share

10% Debenture Capital
- The per value is Sh1,000 for each debenture stock
- The debenture have ten-year maturity period
- The flotation cost for each debenture stock is Sh.50

Retained Earnings
- The company expects to have Sh.225,000 of retained earnings available for the next financial year.
- Should the retained earnings balance to exhausted, the company will use common stock as the form of equity financing

Additional Information:-
1. The target capital structure is as follows

<table>
<thead>
<tr>
<th>Source of Capital</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debentures</td>
<td>40%</td>
</tr>
</tbody>
</table>
QUESTION 26
a) Highlight four uses of the cost of capital to Limited Liability Company.
b) The finance manager of Mapato limited has compiled the following information regarding the company’s capital structure.

Ordinary Shares
The company’s equity shares are currently selling at Sh. 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:

<table>
<thead>
<tr>
<th>Year ended 30 September</th>
<th>Dividend per Share Sh.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>6.60</td>
</tr>
<tr>
<td>2003</td>
<td>6.25</td>
</tr>
<tr>
<td>2002</td>
<td>5.85</td>
</tr>
<tr>
<td>2001</td>
<td>5.50</td>
</tr>
<tr>
<td>2000</td>
<td>5.23</td>
</tr>
</tbody>
</table>

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 price of Sh.3 per share and it would cost Sh.5 in floating costs per share.

Debt
The company can raise funds by selling Sh.100, 8% coupon interest rate, 20-year bonds on which annual interest will be made.
The bonds will be issued at a discount of Sh.3 per bond and a flotation cost of an equal amount per bond will be incurred.

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

<table>
<thead>
<tr>
<th>Sh.‘000’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term debt</td>
</tr>
<tr>
<td>Preference Shares</td>
</tr>
<tr>
<td>Ordinary Shares</td>
</tr>
<tr>
<td>Retained Earnings</td>
</tr>
<tr>
<td>100,000,000</td>
</tr>
</tbody>
</table>

The company is in the 30% tax bracket.

Required:
i) The specific cost of each source of financing.
ii) The level of total financial at which a break-even point will occur in the company’s weighted marginal cost of capital.

QUESTION 27
a) Explain the meaning of the term “Cost of capital” and explain why a company should calculate its cost of capital with care.
b) Identify and briefly explain three conditions, which have to be, satisfy before the use of the weighted average cost of capital (WACC) can be justified.
c) Biashara Ltd, has the following capital structure

<table>
<thead>
<tr>
<th>Sh.‘000’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term debt</td>
</tr>
<tr>
<td>Ordinary Share Capital</td>
</tr>
<tr>
<td>Retained earning</td>
</tr>
</tbody>
</table>
2. The company paid a dividend of Sh. 3.60 per share in the year ended 31 December 2007. The company's shares currently sell at Sh. 60 per share.

3. The company can obtain new capital as follows:
   - Ordinary shares: New ordinary share capital can be issued at a floatation cost of 10%
   - Preference share capital: New preference share capital with a dividend of Sh. 11 per share can be issued at Sh. 100 per share. The floatation cost is Sh. 5 per share.
   - Debentures: Debentures can be issued at an interest rate of 12% per annum.

4. Assume that the cost of capital is constant beyond the retained earnings break point.

Required:

i) Calculate the break point in the marginal cost of capital (MCC) schedule.

ii) Determine the cost of each capital structure component.

iii) Calculate the weighted average cost of capital (WACC) in the intervals between the break point in the marginal cost of capital (MCC) schedule.

iv) Hisa Ltd. has the following investment opportunities:

<table>
<thead>
<tr>
<th>Project</th>
<th>Cost</th>
<th>Internal rate of return (IRR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>17%</td>
</tr>
<tr>
<td>B</td>
<td>20,000,000</td>
<td>16%</td>
</tr>
<tr>
<td>C</td>
<td>10,000,000</td>
<td>14%</td>
</tr>
<tr>
<td>D</td>
<td>20,000,000</td>
<td>14%</td>
</tr>
<tr>
<td>E</td>
<td>10,000,000</td>
<td>12%</td>
</tr>
</tbody>
</table>

Which of these projects should the company accept and why?

**QUESTION 40**

(a) The following extract of the balance sheet of Mapato Ltd. shows the capital structure of the company as at 31 December 2007:

<table>
<thead>
<tr>
<th>Sh. “000”</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinary share-capital (par value Sh.125)</td>
<td>62,500</td>
</tr>
<tr>
<td>Reserves</td>
<td>121,500</td>
</tr>
<tr>
<td>Shareholders’ equity</td>
<td>184,000</td>
</tr>
<tr>
<td>Long-term liability:</td>
<td></td>
</tr>
<tr>
<td>14% debenture stock (par value Sh.500)</td>
<td>118,500</td>
</tr>
<tr>
<td>Capital employed</td>
<td>302,500</td>
</tr>
</tbody>
</table>

The management of the company considers the above capital structure to be optimal.

Additional information:

1. The company’s earnings before interest and tax (EBIT) average Sh 75 million per annum. These are expected to be maintained in the foreseeable future.
2. The ordinary shares are currently trading at Sh 400 per share.
3. The market price of the debentures is Sh 525 per debenture.
4. The corporate rate of tax is 30 per cent.

Required:

Using the net income approach (incorporate taxes), calculate the company’s

(i) Cost of Equity
(ii) After tax cost of debt (Market value weighted)
(iii) Market-weighted average cost of capital
Bram Ltd. is considering the acquisition of the advanced model which costs sh. 123,500 including installation costs and has a salvage value of sh. 20,500 at the end of 8 years of its useful life. The following data has been provided:

<table>
<thead>
<tr>
<th></th>
<th>Existing machine</th>
<th>Advanced model machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity per annum</td>
<td>200,000 units</td>
<td>230,000 units</td>
</tr>
<tr>
<td>Selling price per unit</td>
<td>Sh. 0.95</td>
<td>Sh. 0.95</td>
</tr>
<tr>
<td>Production cost per unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labour</td>
<td>0.12</td>
<td>0.08</td>
</tr>
<tr>
<td>Materials</td>
<td>0.48</td>
<td>0.46</td>
</tr>
<tr>
<td>Fixed overheads (allocated)</td>
<td>0.25</td>
<td>0.16</td>
</tr>
</tbody>
</table>

The required rate of return is 15%. Ignore taxation.

**Required:**
Compute the following in respect of the new machine:
1. Payback period.
2. Net present Value (NPV).
3. Internal rate of return (IRR).

**June 2013 Question Four A**

(a) Bright Ltd. undertook project X with the following cash flow over its useful life of 3 years. The cost of capital for the project is 10%. The abandonment values of the project have been given below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow (Sh. “000”)</th>
<th>Abandonment value (Sh. “000”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(1,800)</td>
<td>9,600</td>
</tr>
<tr>
<td>1</td>
<td>4,000</td>
<td>6,000</td>
</tr>
<tr>
<td>2</td>
<td>3,800</td>
<td>3,800</td>
</tr>
<tr>
<td>3</td>
<td>3,000</td>
<td>0</td>
</tr>
</tbody>
</table>

**Required**
Advise the management of Bright Ltd. when to abandon project X.

**December 2012 Question Three B**

**QUESTION 5**

(b) ABC Ltd. has the following proposed independent projects for the year ending 31 December 2012:

<table>
<thead>
<tr>
<th>Project</th>
<th>Net investment outlay</th>
<th>Present value of future net cash flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>500</td>
<td>1,000</td>
</tr>
<tr>
<td>B</td>
<td>1,000</td>
<td>2,500</td>
</tr>
<tr>
<td>C</td>
<td>400</td>
<td>300</td>
</tr>
<tr>
<td>D</td>
<td>300</td>
<td>400</td>
</tr>
<tr>
<td>E</td>
<td>200</td>
<td>300</td>
</tr>
</tbody>
</table>

**Required:**
1. Assuming that there is no capital rationing, indicate which projects should be selected.
2. Total net present value (NPV) of the selected projects.
(iii) Assuming a single period internal capital constraint of Sh. 1,700,000 is imposed, indicate which projects should be selected.

**May 2012 Question Four B**

**QUESTION 6**

d) Tezo Ltd. is in the process of modernising its operations. The factory manager has proposed the replacement of the milling machine with a new fully computerised machine. The milling machine was purchased two years ago at a cost of Sh.4 million. The economic life of the machine was five years. However, a management review has established that the machine has a further useful life of five years with a zero salvage value. The machine could be disposed of immediately at Sh. 1.6 million.

The new machine has a purchase price of Sh.8 million with an additional installation cost of Sh. 1.8 million and a salvage value of Sh.2 million. The new machine will lead to increased efficiency and annual savings in costs of Sh.2.1 million. However, electricity costs will increase by Sh.200,000 per annum. The operation of the new machine will also require an increase of Sh.810,000 worth of raw materials. The company uses the straight line method of depreciation. The company's cost of capital is 10% and the corporate tax rate is 30%.

**Required:**
Advise the management of Tezo Ltd. on whether to replace the machine.

**May 2012 Question Three D**

**QUESTION 7**

b) Dzitsoni Ltd. is considering replacing a machine. The existing machine was bought 3 year ago at a cost of Sh 50 million. The machine is expected to have a useful life of 5 more years with no scrap value at the end. The machine could be disposed of immediately at Sh.35 million. The new machine will cost Sh. 80 Million with a set life of 5 years and an expected terminal value of Sh.5 million. With the introduction of the new machine, sales are expected to increase by Sh.25 million per annum over the next five years.

The contribution margin is expected to be 40% and the corporate tax rate is 30%. The operation of the new machine will also require an immediate investment of Sh.8 million in working capital. Installation costs of the new machine will amount to Sh 6 million. Depreciation is to be provided for on a straight line basis. The company's cost of capital is 12%. Capital gain taxes remain suspended and not applicable.

**Required:**
(i) The initial investment for the replacement decision.
(ii) Advise the management of Dzitsoni Ltd. on whether to replace the machine.

**November 2011 Question Three B**

**QUESTION 8**

a) Outline four factors that could influence the capital structure of a company.

b) Differentiate between the term "weighted average cost of capital" and "marginal cost of capital".

c) Lang Ltd is interested in measuring its overall cost of capital and has gathered the following data for the year 2011:

<table>
<thead>
<tr>
<th>Debt</th>
<th>The firm can raise an unlimited amount of debt by selling Sh. 1,000 per value 8% coupon rate, 20 year bonds on which annual interest payments will be made. To sell the issue, an average discount of Sh. 30 per bond would be given</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference stock</td>
<td>The firm can sell 8% preferred stock at its Sh. 95 share per value. The cost of issuing and selling the stock is expected to be Sh. 5 per share. An unlimited</td>
</tr>
</tbody>
</table>

FINANCIAL MANAGEMENT
The firm can raise all unlimited amount of debt by selling Sh. 1,000 per value 8% coupon rate, 20 year bonds on which annual interest payments will be made. To sell the issue, an average discount of Sh. 30 per bond would be given.

The firm expects to have Sh. 100,000 of retained earnings in the coming year 2012. New shares can be issued at Sh 62 each with a flotation cost of Sh 2 per share. The growth rate is expected to be 6%. Expected dividend in the coming year is Sh. 6.

The company’s estimate optimal capital structure is given below.

<table>
<thead>
<tr>
<th></th>
<th>Sh. “000”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt</td>
<td>30,000</td>
</tr>
<tr>
<td>Preferred stock</td>
<td>20,000</td>
</tr>
<tr>
<td>Equity</td>
<td>50,000</td>
</tr>
</tbody>
</table>

The company tax is at 30%

**Required**

(i) Compute the specific cost of each source of financing
(ii) Determine the breakpoint and the weighted average marginal cost of capital below the breakpoint.

**QUESTION 9**

a) Briefly describe the mean-variance rule.

b) Three options are available to the investment manager of Maendeleo Ltd. as follows:
   - Project Weka may yield a return of Sh.20 million with a probability of 0.3, or a return of Sh.40 million with a probability of 0.7.
   - Project Leta may earn a return of Sh.30 million with a probability of 0.3 or a return of Sh.55 million with a probability of 0.7.
   - Project Pato yields a return of Sh.30 million with a probability of 0.5 or Sh.40 million with a probability of 0.5.

**Required:**

By applying the mean-variance rule, advise Maendeleo Ltd investment manager on the best investment option.

**QUESTION 10**

c) Pwani Dock Limited is considering reopening of one of its loading docks. New equipment will cost sh. 50,000,000 payable immediately. To operate the new dock will require additional dockside employees costing sh. 16,000,000 per annum. There will also be need for additional administrative staff and other overheads such as extra stationery, insurance and telephone costs amounting to sh. 19,000,000 per annum. Electricity used on the dock is anticipated to cost sh. 10,000,000 per annum.

The head office will allocate sh. 10,000,000 of its (unchanged) costs to this project. Other docks will experience in receipts of about sh.6,000,000 due to some degree of cannibalization. Annual fees expected from the new dock are sh. 60,000,000 per annum.
Strategy B
Contract the services of a factor at a cost of 2% of total credit sales while advancing Dindiri Ltd. 90% of total credit sales invoiced at the end of each month at an interest rate of 1.5% per month.

The effects of this strategy will be:
1. No change in the level of annual sales proportion of credit sales and contribution margin ratio.
2. Savings on debt administration expenses of Sh.2,100,000 per month will result.
3. All bad debt losses will be eliminated.
4. The average collection period will drop to 20 days.

Required:
(i) Evaluate the financial benefits and Costs of each strategy (assume a 60 day year)
(ii) Advise the management of Dindiri Ltd. on the viable strategy to implement.

December 2012 Question Four B

QUESTION 6
Bahari Ltd. has the standard deviation of its daily net cash flow estimated at Sh.68,250. The company maintains minimum cash balance Sh.500,000. The company's transaction cost is Sh.360 from the money marker. The rate interest for the marketable securities is 9.865% per annum. The company uses the Miller-Oir model to set its target cash balance.
Assume 365 days a year.

Required:
(i) The company's return point.
(ii) Upper cash limit.
(iii) The average cash balance.

December 2012 Question Five D

QUESTION 7
a) The finance manager of Charisma Enterprises Ltd. has given the following financial estimates for the year ending 31 December 2012:

<table>
<thead>
<tr>
<th></th>
<th>Sh. “000”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (all on credit)</td>
<td>3,600</td>
</tr>
<tr>
<td>Trade receivables</td>
<td>306</td>
</tr>
<tr>
<td>Gross profit margin</td>
<td>25% on sales</td>
</tr>
<tr>
<td>Finished goods</td>
<td>200</td>
</tr>
<tr>
<td>Work-in-progress</td>
<td>350</td>
</tr>
<tr>
<td>Raw materials (balance held)</td>
<td>150</td>
</tr>
<tr>
<td>Trade payables</td>
<td>130</td>
</tr>
</tbody>
</table>

Raw materials are 80% of cost of sales which are all on credit.

Required:
The cash operating cycle.

May 2012 Question Three C

QUESTION 8
b) The projected monthly working capital requirements for Chasimba Ltd. for the year ending 31 December 2012 is as follows:
Required
(i) A statement showing the working capital estimate.
(ii) Assume that production is carried on evenly throughout the year and wages and overheads also accrue evenly.

June 2010 Question Three A

QUESTION 14
b) Mapema Ltd. manufactures and sells a product called “Rugs”. The company sells the product to its customers on credit terms. The company is considering easing the debtors collection efforts so as to increase its profitability.

The following information relates to the company:
- Average number of units sold per year 72,000,000
- Selling price per unit sh. 32.
- Variable cost per unit is sh. 28.
- Annual fixed collection expenses sh. 60,000,000.
- Average collection period is 40 day.

By easing the collection efforts, Mapema Ltd. expects to save sh. 40,000,000 per annum in collection expenses. However, this will lead to an increase in bad debts from 1% to 2% of sales and the average collection period from 40 days to 58 days. Sales will also increase by 1,000,000 units per annum. The company’s required rate of return is 24%

Assume a 360 day year.

Required:
Advice Mapema Ltd. on whether it is worthwhile to ease the collection efforts.

June 2010 Question Three B

QUESTION 15
a) Name and explain three approaches that could be used by a company to finance its working capital requirements.

b) The following information was obtained from the financial statements of Alusa Ltd. A retail company, for the year ended 30 September 2009.

<table>
<thead>
<tr>
<th>Shs. “000”</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual sales</td>
<td>10,000,000</td>
</tr>
<tr>
<td>Average stock</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Average debtors</td>
<td>666,667</td>
</tr>
<tr>
<td>Average creditors</td>
<td>800,000</td>
</tr>
</tbody>
</table>

Additional information:
1. The company’s gross profit margin is 40%.
2. All sales are on credit terms.
3. Assume a 360 day year.

Required:
The company’s cash conversion cycle.

c) Kilimo Ltd. manufactures a standard farm implement which it sells to distributors at sh. 100 per unit. The company intends to relax its credit policy which will result in an increase collection period from one month to two months.

The longer credit period is also expected to increase sales by 25%. Variable costs of production are sh. 85 per unit while annual sales are sh. 24,000,000. The increase in sales will result in additional stock of sh. 2,000,000 and additional creditors of sh. 200,000.
The company is considering changing its credit terms to net 30 on all sales. This change of credit terms is expected to result in the following:

- Sales would reduce to sh. 2,600,000 per annum.
- Accounts receivable would drop to 35 days of sales.

Additional information:
1. The variable cost ratio is 70%.
2. Corporation tax rate is 30%.
3. Interest on funds invested in accounts receivables is at a rate of 11% per annum. Assume a 360 – day year.

Required:
With the aid of appropriate computations, assess whether the company should change its credit terms to net 30.

June 2007 Question Two B
QUESTION 4
(a) The following data was obtained from the books of Chepe Ltd. for the year ended 30 November 2012:

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current ratio</td>
<td>1.7</td>
</tr>
<tr>
<td>Debt/Equity ratio</td>
<td>1.5</td>
</tr>
<tr>
<td>Interest cover</td>
<td>3.2</td>
</tr>
<tr>
<td>Current liabilities</td>
<td>Sh.600,000</td>
</tr>
<tr>
<td>Total asset turnover</td>
<td>1.4 times</td>
</tr>
<tr>
<td>Fixed asset turnover</td>
<td>5.6 times</td>
</tr>
<tr>
<td>Gross profit margin</td>
<td>30%</td>
</tr>
<tr>
<td>Earnings before interest and tax (EBIT)/sales</td>
<td>5%</td>
</tr>
</tbody>
</table>

Required:
(i) Income statement for the year ended 30 November 2012.
(ii) A condensed statement of financial position as at 30 November 2012.

QUESTION 5
(a) The following data was obtained from the summarised statement of financial position of Ngamani Ltd. as at 30 November 2012:

<table>
<thead>
<tr>
<th></th>
<th>Sh ‘000’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-current assets</td>
<td></td>
</tr>
<tr>
<td>Current assets</td>
<td>5,900</td>
</tr>
<tr>
<td>Current liabilities</td>
<td>(2,600)</td>
</tr>
<tr>
<td>Net current assets'</td>
<td>3,300</td>
</tr>
<tr>
<td>9% loan notes</td>
<td>(8,000)</td>
</tr>
<tr>
<td>Ordinary shares (Sh.0.25 par value)</td>
<td>2,000</td>
</tr>
<tr>
<td>7% preference shares (Sh.1 par value)</td>
<td>1,000</td>
</tr>
<tr>
<td>Share premium account</td>
<td>1,100</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>6,550</td>
</tr>
<tr>
<td></td>
<td>10,650</td>
</tr>
</tbody>
</table>

Additional information:
1. The current price of ordinary shares is at Sh.1.35 ex-dividend.
2. A dividend of Sh.0.1 is payable during the next few days. The expected growth rate is 9% per annum.
3. The current price of the preference shares is Sh.0.77 and the dividend has recently been paid.
4. The loan notes interest has also been paid recently and the loan notes are currently trading at Sh.80 per Sh.100 nominal value. The loan notes were issued one year ago to finance new investment.
5. The applicable corporate tax is 30%

Required:
(i) Gearing ratio using book values.
(ii) Gearing ratio using market values.
(iii) Weighted average cost of capital (WACC).

QUESTION 6
a) The following statement of financial position was extracted from the books of XYZ Ltd. for the year ended 31 March 2011 and 31 March 2012.
### Required:

1. **The total debt ratio for the years 2011 and 2012.**
2. **The equity multiplier ratio for the years 2011 and 2012.**
3. **The capital gearing ratio for the years 2011 and 2012.**

---

#### May 2012 Question Four A

**QUESTION 7**

a) Highlight three problems that could be faced by a firm with a high gearing level.

#### May 2012 Question Three A

**QUESTION 8**

(e) Explain the purpose of financial ratio analysis and why a careful reading of the financial statements is not enough.

#### December 2010 Question Five E

**QUESTION 9**

a) The following statement of financial position relates to Mageuzi Ltd. as at 31 December 2009.

<table>
<thead>
<tr>
<th>Mageuzi Ltd.</th>
<th>Statement of financial position as at 31 December 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sh. “million”</strong></td>
<td><strong>Sh. “million”</strong></td>
</tr>
<tr>
<td><strong>Fixed assets (net book value)</strong></td>
<td>13</td>
</tr>
<tr>
<td><strong>Current assets:</strong></td>
<td></td>
</tr>
<tr>
<td>Stock</td>
<td>3</td>
</tr>
<tr>
<td>Debtors</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>
The company is planning on introducing a new production process that is expected to improve operational efficiency. Under the new production process, variable costs are expected to decrease by sh. 1,500 per unit of output. However, fixed costs are expected to increase by sh. 15 million per annum partly due to additional depreciation on the fixed assets purchased for the production process.

Additional information:
1. Variable costs for the year ended 31 December 2008 related to a production and sales level of 20,000 units.
2. Capital requirements for the new production process will be met through an issue of sh. 100 million debentures at an interest rate of 12% per annum.
3. Sales and stock levels for the year ending 31 December 2009 are not expected to change.
4. The process earnings (P/E) ratio of the company for the year ended 31 December 2008 was 13:1. This ratio is expected to be maintained in the year ending 31 December 2009.
5. The corporation rate of tax is 30%.

Required:

i) Earnings per share (EPS) and market price per share (MPS) for the year ended 31 December 2008.

ii) Expected EPS and MPS for the year ending 31 December 2009.

iii) Assume that, instead of issuing debentures, the company decided to finance the capital project through a rights issue of 1,500,000 shares. Compute the expected EPS for the year ending 31 December 2009.

QUESTION 12

a) Sunrise Limited presented the following financial statements for the year ended 31 December 2008:

Income for the year ended 31 December 2008.

<table>
<thead>
<tr>
<th></th>
<th>Sh.</th>
<th>Sh.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>9,040,000</td>
<td></td>
</tr>
<tr>
<td>Cost of sales:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opening stock</td>
<td>2,500,000</td>
<td></td>
</tr>
<tr>
<td>Purchases</td>
<td>6,820,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9,320,000</td>
<td></td>
</tr>
<tr>
<td>Closing stock</td>
<td>(2,860,000)</td>
<td>(6,460,000)</td>
</tr>
<tr>
<td>Gross profit</td>
<td></td>
<td>2,580,000</td>
</tr>
<tr>
<td>expenses</td>
<td></td>
<td>(2,640,000)</td>
</tr>
<tr>
<td>Net loss</td>
<td></td>
<td>(60,000)</td>
</tr>
</tbody>
</table>

Balance sheet as at 31st December 2008

<table>
<thead>
<tr>
<th></th>
<th>Sh.</th>
<th>Sh.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-current assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Premises</td>
<td>5,600,000</td>
<td></td>
</tr>
<tr>
<td>Fixtures and fittings (ne book value)</td>
<td>500,000</td>
<td></td>
</tr>
<tr>
<td>Motor vehicle (net book value)</td>
<td>1,040,000</td>
<td>7,140,000</td>
</tr>
<tr>
<td>Current assets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock</td>
<td>2,860,000</td>
<td></td>
</tr>
<tr>
<td>Debtors</td>
<td>3,260,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6,120,000</td>
<td></td>
</tr>
</tbody>
</table>
Required:
i) Gearing ratio for each company
ii) Earnings per share for each company
iii) Price earnings ratio for each company
iv) Interpret your result obtained in (i) and (ii) above

QUESTION 18
Ushindi Limited presented the following financial statements on 30 June 2004

Income statement for the year ended 30 June 2004

<table>
<thead>
<tr>
<th>Description</th>
<th>Sh.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (all on credit)</td>
<td>4,000,000</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>440,000</td>
</tr>
<tr>
<td>Less: debenture interest</td>
<td>40,000</td>
</tr>
<tr>
<td>Corporation tax</td>
<td>176,000</td>
</tr>
<tr>
<td>Ordinary dividend proposed</td>
<td>224,000</td>
</tr>
<tr>
<td>Retained Profit</td>
<td>107,200</td>
</tr>
<tr>
<td></td>
<td>116,800</td>
</tr>
</tbody>
</table>

Balance Sheet as at 30 June 2004

<table>
<thead>
<tr>
<th>Description</th>
<th>Sh.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Assets:</td>
<td></td>
</tr>
<tr>
<td>Freehold property (Net book Value)</td>
<td>480,000</td>
</tr>
<tr>
<td>Plant and Machinery (Net Book Value)</td>
<td>800,000</td>
</tr>
<tr>
<td>Motor Vehicle (Net Book Value)</td>
<td>200,000</td>
</tr>
<tr>
<td>Furniture and Fittings</td>
<td>200,000</td>
</tr>
<tr>
<td>Current Assets:</td>
<td></td>
</tr>
<tr>
<td>Stock</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Debtors</td>
<td>400,000</td>
</tr>
<tr>
<td>Investment</td>
<td>120,000</td>
</tr>
<tr>
<td></td>
<td>1,520,000</td>
</tr>
<tr>
<td>Current Liabilities:</td>
<td></td>
</tr>
<tr>
<td>Trade Creditors</td>
<td>238,400</td>
</tr>
<tr>
<td>Bank Overdraft</td>
<td>878,400</td>
</tr>
<tr>
<td>Corporation tax</td>
<td>176,000</td>
</tr>
<tr>
<td>Dividend payable</td>
<td>107,200</td>
</tr>
<tr>
<td></td>
<td>(1,400,000)</td>
</tr>
<tr>
<td></td>
<td>120,000</td>
</tr>
<tr>
<td></td>
<td>1,800,000</td>
</tr>
<tr>
<td>Financed by:</td>
<td></td>
</tr>
<tr>
<td>Authorised share capital: 800,000 Sh. 1 ordinary</td>
<td>800,000</td>
</tr>
<tr>
<td>Shares</td>
<td>400,000</td>
</tr>
<tr>
<td>Issued and fully paid: 400,000 Sh. 1 ordinary</td>
<td>200,000</td>
</tr>
<tr>
<td>shares</td>
<td>800,000</td>
</tr>
<tr>
<td>Capital reserve</td>
<td>400,000</td>
</tr>
<tr>
<td>Revenue reserve</td>
<td>1,800,000</td>
</tr>
<tr>
<td>Loan capital: 400,000 Sh. 1 10% debentures</td>
<td></td>
</tr>
</tbody>
</table>

Additional Information
1. An analysis of the industry in which the company operates reveals the following industrial average:
   - 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
   ii) Turnover of capital
   iii) Operating expenses ratio
   iv) Accounts receivable turnover in days
   v) Dividend yield
   vi) Price earnings ration
   vii) Market value to book value ration
   viii) Current ratio

b) Compare the company’s liquidity performance with that of the industry.

**QUESTION 19**
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 to the financial statements prepared to 31 August 2003

<table>
<thead>
<tr>
<th>Sh.’000’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total fixed assets (Net book value)</td>
</tr>
<tr>
<td>Operating cost (excluding debt interest)</td>
</tr>
<tr>
<td>Dividends declared and paid</td>
</tr>
<tr>
<td>Cash and bank balances</td>
</tr>
</tbody>
</table>

Eighty percent (80%) of the sales were on credit. The current asset 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 provided with the following ratios, which have been determined from the financial statements of Pokea Cell Phone Operators Ltd.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Assets turnover</td>
<td>1.8 Times</td>
</tr>
<tr>
<td>Gross profit margin</td>
<td>45%</td>
</tr>
<tr>
<td>Stock turnover</td>
<td>4.4 times</td>
</tr>
<tr>
<td>Interest cover</td>
<td>4 Times</td>
</tr>
<tr>
<td>Average debt collection period (based on 360 days of the year)</td>
<td>84 days</td>
</tr>
<tr>
<td>Current ratio</td>
<td>2.5:1</td>
</tr>
</tbody>
</table>

**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
   ii) Balance Sheet

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
TOPIC 12

PUBLIC FINANCE

QUESTION 1
a) 
   (i) Explain the concept of public enterprise restructuring.
   (ii) Discuss three forms of corporate restructuring that may be adopted by public enterprises.

December 2014 Question Four A

QUESTION 2
(a) In the context of the management and control of public finances in your country:
   (i) Explain the meaning of the term "budget cycle".
   (ii) Highlight any six functions of the Controller of Budget.

May 2014 Question Two A

QUESTION 3
a) Highlight six ways through which performance contracts have helped to restore trust and improved financial management in government departments.

December 2013 Question Five A and B

b) Explain six disadvantages of using foreign debt as a source of finance to the government of your country.

December 2013 Question Five A and B

QUESTION 4
(a) Explain four effects on the economy of your country arising from the loss of value of the national currency against the dollar.
(b) Performance evaluation in the public sector has encountered some resistance from the employees.

Required:
Citing four reasons justify the above statement.

December 2012 Question Five A and B

QUESTION 5
c) Financial management practices in government departments are different from financial management practices in industrial or commercial companies.

Required:
Citing five reasons, justify the above statement.

May 2012 Question Five C

QUESTION 6
b) Explain four arguments against a balanced budget in public finance.

November 2011 Question Five B

QUESTION 7
c) Highlight the main differences between the public sector and the private sector from the point of view of financial management.

December 2010 Question Five C
a. Insisting on restrictive covenants to be incorporated in the debt contract. These covenants may restrict:

- The company’s asset base
- The company’s ability to acquire additional debts
- The company’s ability to pay future dividend and management remuneration.
- The management ability to make future decision (control related covenants)

b. if creditors perceive that shareholders are trying to take advantage of them in unethical ways, they will either refuse to deal further with the firm or else will require a much higher than normal rate of interest to compensate for the risks of such possible exploitations.

It therefore follows that shareholders wealth maximization require fair play with creditors. This is because shareholders wealth depends on continued access to capital markets which depends on fair play by shareholders as far as creditor's interests are concerned.

-The meaning of earthly existence lies, not as we have grown used to thinking, in prospering, but in the development of the soul.

-Aleksandr Solzhenitsyn
Workings

<table>
<thead>
<tr>
<th>Incremental sales</th>
<th>Sh. ‘000’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (2011)</td>
<td>360,000</td>
</tr>
<tr>
<td>Sales (2012) - ( \left( \frac{115}{100} \times 360,000 \right) )</td>
<td>414,000</td>
</tr>
<tr>
<td>Sales (2013) - ( \left( \frac{120}{100} \times 414,000 \right) )</td>
<td>496,000</td>
</tr>
<tr>
<td>Incremental sales: (496,800 – 360,000)</td>
<td>136,800</td>
</tr>
</tbody>
</table>

2. Assets expressed as % of sales (2011)

Non-current assets

\[
\frac{\text{Non-Current Asset}}{\text{Sales}} \times 100 = \frac{187,200}{360,000} \times 100 = 52\%
\]

Inventory

\[
\frac{\text{Inventory}}{\text{Sales}} \times 100 = \frac{57,600}{360,000} \times 100 = 16\%
\]

Trade receivables

\[
\frac{\text{Trade receivables}}{\text{Sales}} \times 100 = \frac{43,200}{360,000} \times 100 = 12\%
\]

Cash

\[
\frac{\text{Cash}}{\text{Sales}} \times 100 = \frac{10,800}{360,000} \times 100 = 3\%
\]

3. Current liabilities expressed as % of sales

\[
\frac{\text{Accured Sales}}{\text{Sales}} \times 100 = \frac{43,200}{360,000} \times 100 = 10\%
\]

November 2011 Question Four A

d) The motives of leasing an asset from the point of view of management

- **Agency costs** - large and high growth companies are likely to lease their own assets.
- **Taxation effect** - leasing gives rise to substantial tax advantages.
- **Debt capacity** - leasing promotes preservation of existing ways of credit.
- Cheaper option especially when the asset is expected to become obsolete

November 2011 Question Two A

b) Distinguish between ‘sale and lease back’ transactions and ‘sale and manage back’ transactions

**Leaseback**, short for **sale-and-leaseback**, is a financial transaction, where one sells an asset and leases it back for the long-term; therefore, one continues to be able to use the asset but no longer owns it. The transaction is generally done for fixed assets, notably real estate and planes, trains and automobiles, and the purposes are varied, including financing, accounting, and taxing.
Sale and manage back
Is a financial arrangement in which a property is sold, then managed by its former owner for a cut of profits

December 2010 Question Five B

QUESTION 9
a) i) Total debt for karibu Limited as at 31st December 2008
Assets = capital + liabilities
2,400,000,000 = Accounts payables + OSC + Retained earnings + Long term debt
2,400,000,000 = 750,000,000 + 850,000,000 + 590,000,000 + x
x = sh. 210,000,000
Total debt = long term debt + Accounts payables = 210,000,000 + 750,000,000
= sh. 960,000,000

ii) The new long term debt

<table>
<thead>
<tr>
<th>Increase in sales (5,000,000) (1.25) - 5,000,000</th>
<th>Shs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,250,000</td>
</tr>
<tr>
<td>Increase in total assets 48% × 1,250,000</td>
<td>600,000</td>
</tr>
<tr>
<td>Increase in accounts payable (15% × 1,250,000)</td>
<td>(187,500)</td>
</tr>
<tr>
<td>Retained earnings (5,000,000) (0.06) (0.4) (1.25)</td>
<td>(150,000)</td>
</tr>
<tr>
<td>Less: Ordinary Share Capital raised</td>
<td>(150,000)</td>
</tr>
<tr>
<td>New long term debt</td>
<td>112,500</td>
</tr>
</tbody>
</table>

Workings
Percentage Increase in total assets = \( \frac{2400}{5000} \times 100 = 48\% \)

Percentage Increase in A/C payable = \( \frac{750}{5000} \times 100 = 15\% \)

August 2009 Question Two A

QUESTION 10
a) Reasons that may drive a company to raise equity finance rather than debt finance
   i. It is provided without condition
   ii. It is a permanent source of fund
   iii. Not secured
   iv. Reduce the level of gearing of a firm

December 2007 Question Two A

QUESTION 11

<table>
<thead>
<tr>
<th>Profit before tax</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,200,000</td>
<td>1,200,000</td>
<td>(375,000)</td>
</tr>
<tr>
<td>Less interest</td>
<td>1,200,000</td>
<td>825,000</td>
</tr>
<tr>
<td>Tax 30%</td>
<td>(360,000)</td>
<td>(247,500)</td>
</tr>
<tr>
<td>Profit after tax</td>
<td>840,000</td>
<td>577,500</td>
</tr>
<tr>
<td>Number of shares issued</td>
<td>500,000</td>
<td>250,000</td>
</tr>
</tbody>
</table>

ROI = \( \frac{\text{profit before tax} + \text{interest}}{\text{total assets/capital employed}} \)

24% = \( \frac{x}{5,000,000} \)
(ii) The current yield to maturity of the bond

\[
\text{Current yield} = \frac{\text{Annual coupon payment}}{\text{price}}
\]

\[
\frac{120}{1,182.55} = 0.1015
\]

\[= 10.15\%\]

(iii) Capital gain on the bond

\[
\text{Capital gain} = \text{Total yield} - \text{current yield}
\]

\[10\% - 10.15\% = -0.15\%

\]

May 2014 Question Two B

QUESTION 3

c) Theoretical value of the share

\[
g = \frac{n \cdot \text{EPS}_\text{o}}{\text{Ve}} - 1\]

where,

\[
g = \text{growth rate} \quad \text{Ve} = \text{initial EPS} \quad \text{EPS}_\text{o} = \text{last paid EPS} \quad n = \text{number of years}
\]

\[
g = \frac{4 \cdot 4.86}{\sqrt{4.00}} - 1 = 0.0498 = 0.05 = 5\%
\]

Using earnings growth model

\[
\text{Ve} = \text{DPS} \cdot \left(\frac{1+g}{r-g}\right)
\]

\[
\frac{1.944 \cdot [1+0.05]}{0.13-0.05} = \text{shs.26}
\]

December 2013 Question Five C

QUESTION 4

<table>
<thead>
<tr>
<th>End of year</th>
<th>Dividend</th>
<th>Discount rate @18%</th>
<th>Present value dividends @18%</th>
</tr>
</thead>
<tbody>
<tr>
<td>4(1.15)</td>
<td>4.6</td>
<td>0.84746</td>
<td>3.898</td>
</tr>
<tr>
<td>4(1.15)^2</td>
<td>5.29</td>
<td>0.71818</td>
<td>3.799</td>
</tr>
<tr>
<td>4(1.15)^3</td>
<td>6.08</td>
<td>0.60863</td>
<td>3.700</td>
</tr>
<tr>
<td>6.08(1.1)</td>
<td>6.688</td>
<td>0.515579</td>
<td>3.449</td>
</tr>
<tr>
<td>6.08(1.1)^2</td>
<td>7.3568</td>
<td>0.43711</td>
<td>3.216</td>
</tr>
<tr>
<td>6.08(1.1)^3</td>
<td>8.09248</td>
<td>0.37043</td>
<td>2.998</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21.06</td>
</tr>
</tbody>
</table>
investor X the ledger a/c of investor Y will be debited with the ledger a/c for investor X will be credited.

b) Function of Central bank
i) Issuing of Currency.
Central bank is the sole currency–issuing authority in a country. It is the most important function and requires the highest degree of efficiency and trust and efficiency. It prints and mints coins and is required to keep it as secret as possible. The central bank also ensures that just the right quantity of money is in circulation.

ii) Banker to the Government.
A central bank provides facilities for the government in the same manner as a commercial bank does for the businessman. It receives deposits on behalf of the government from various sources, e.g. income tax, custom duties, proceeds of the sale of government securities, etc. It provides cheques for the ministries, who issue them to their creditors. All civil servants receive their salaries by means of cheques drawn on the central bank of their country.

iii) Lender to the government.
The central bank provides the government with necessary funds against securities. It also acts as the government’s agent or raising loans by the sale of government securities to the public. The central bank also manages the public debt, which is the money due by a government to its people.

iv) Advisor to the Government.
The central bank being a specialized institution is well fitted to give advice on issues of economic nature. It advises on the best way to raise short-term finance for government project or on the ways and means to control inflation in the country and other similar problems.

v) Banker to commercial Banks.
The central bank provides banking facilities to commercial banks in the country. This enables them to settle debts arising from the issuing of cheques by their customers to the clients of other banks in the country. They instruct the central bank to make an appropriate entry in the accounts, thereby eliminating the need for actual transfer of money.

c) i) Value of ordinary shares = PV of DPS p.a in ∞
DPS = Total dividend
     No. of shares
     180,000
     72,000
     Sh2.50 p.a

Δ Value of ordinary shares 2.50 × \( \frac{1}{0.2} \) = shs. 12.50

ii) Value of the firm = Value before investment + PV of new investment

\[
\begin{align*}
\text{Value before investment} & = 180,000 \times \frac{1}{0.2} = 900,000 \\
\text{P.V. of cash flows} & = 180,000 \times \text{PVAF, 20%,}n \\
& = 180,000 \times \text{PVAF, 20%,}4 \\
& = 180,000 \times 2.59 = 466,200 \\
\text{New value after investment} & = 1,366,200
\end{align*}
\]
QUESTION 19

a) Distinguish

i. **Cum dividend and ex dividend**: The word *cum* means inclusive while *ex* means exclusive. Therefore *cum-dividend* means inclusive of dividends while *ex dividend* means exclusive of dividends.

ii. **Cum-all and ex-all**: *Cum-all* means inclusive of all the benefits i.e. dividends rights issue, bonus issue etc. and *ex-all* means exclusive of all the benefits.

b) Interest = 10% × 1,000 = 100
Conversion rate = Sh.100 per share
No. of Shares to be acquired = Sh1,000 = 10 Ordinary Shares

<table>
<thead>
<tr>
<th>MPS after 4 Years either at</th>
<th>Total Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Sh90 × 10</td>
<td>Sh.900</td>
</tr>
<tr>
<td>b) Sh.120 × 10</td>
<td>Sh.1,200</td>
</tr>
</tbody>
</table>

If MPS is Sh900

| A × PVIFA 10%, 4 yrs = 100 × 3.1699 | 316.99 |
| 900 × PVIF 10%, 4 yrs = 900 × 0.6830 | 614.7 |
| Total Value of the Debentures | 931.69 |

If MPS is Sh.1200

| A × PVIFA 10%, 4 yrs = 100 × 3.1699 | 316.99 |
| 1200 × PVIF 10%, 4 yrs = 1200 × 0.6830 | 819.6 |
| Total Value of the Debentures | 1136.59 |

c) **Intrinsic value** = PV of all the expected future benefits

| A × PVIFA 10%, 6 = 8 × 4.3553 | 34.84 |
| 120 × PVIF 10%, 6 = 120 × 0.5645 | 67.74 |
| Intrinsic / Theoretical value of the share | 102.58 |

QUESTION 20

a) **Advantages of a rights issue to the**

i) **Issuing company**
   - It increases the equity, capital of the firm and if the firm was geared, its gearing level will decrease leading to decrease in financial risk of the company.
   - It involves lesser procedures e.g. no need to prepare a prospective as the shares are issued to the shareholders who know the company.

ii) **The Shareholder**
   - With increased number of shares the shareholders will receive higher dividends in the future.
   - It does not dilute the ownership and control of the firm since the shares are issued to existing shareholders in proportion to their current ownership.
   - It enables the existing shareholders to enjoy the discounts offered by purchasing the shares at a price below the existing MPS.

b) i) **Cum rights MPs = Current MPs + NPV per share**

\[
K_e = r = \frac{D_1 + g}{P_0} = \frac{D_0 (1 + g)}{P_0} + g
\]

\[
= \frac{4.5 (1.05) + 0.05}{50} = 14.45\%
\]
Equity

\[ \text{DY} = \frac{\text{DPS}}{\text{MPS}} \]

where

- \( \text{DY} \) = dividend yield
- \( \text{DPS} \) = divided per share
- \( \text{MPS} \) = market price per share

\[ \text{DPS} = \text{DY} \times \text{MPS} \]

\[ = 0.05 \times 45 \]

\[ = \text{Sh. 2.25} \]

\[ \text{Ke} = \frac{\text{D}0}{\text{P}0} \]

where

- \( \text{Ke} \) = Cost of equity = \( \frac{2.25}{45} \) = 5%
- \( \text{D}0 \) = Divided
- \( \text{P}0 \) = Price of equity
- \( f \) = floatation cost

\[ \text{Ke} = \frac{\text{D}0}{\text{P}0} - f = \frac{2.25}{45(1 - 0.12)} = 5.68\% \]

\[ \text{Ke} = \frac{\text{D}0}{\text{P}0} - f \]

Where \( \text{Ke} \) = Cost of preference share = \( \frac{2.00}{25} \) = 8%

\( \text{D}p \) = Preference dividend

Weights

<table>
<thead>
<tr>
<th>Debentures</th>
<th>100 x 5,000</th>
<th>Shs 500,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retained earnings</td>
<td>60% x 6,000,000</td>
<td>3,600,000</td>
</tr>
<tr>
<td>Ordinary shares</td>
<td>16,800,000</td>
<td>10,464,000</td>
</tr>
<tr>
<td>Preference share (bal)</td>
<td>2,223,600</td>
<td>16,800,000</td>
</tr>
</tbody>
</table>

\[ \text{WMCC} = \text{Kd} \times \text{Vd} + \text{Kr} \times \text{Ve} + \text{Kp} \times \text{Vp} \]

\[ = \frac{1}{5} \times 5.6 + 6.8 \times \frac{10}{16.8} + 10 \times \frac{22.61}{16.8} \]

\[ = 5.71\% \]

**QUESTION 6**

c) (i) Overall breakeven point

\[ \text{PQBE} = \text{VQBE} + \text{F} + \text{C} \]

\( P \) = price per unit \( Q \) = units produced and sold \( V \) = variable cost per unit

\( F \) = fixed operating cost \( C \) = fixed financial cost

\[ \text{QBE} = \frac{\text{F} + \text{C}}{\text{P} - \text{V}} = \frac{40,000 + 10,000}{20 - 15} = 10,000 \text{ units} \]

(ii) Degree of operating leverage

\[ \text{QOL} = \frac{Q(P-V)}{Q(P-V) - F} \]

\[ = \frac{20,000 (20 - 15)}{20,000 (20 - 15) - 40,000} = \frac{100,000}{60,000} = 1.67 \]

(iii) Degree of financial leverage

\[ \text{DFL} = \frac{[Q(P-V) - f]}{[Q(P-V) - f - c](1-\tau)} \]

\[ = \frac{[20,000 (20 - 15) - 40,000]}{[20,000 (20 - 15) - 40,000]} \times \frac{5000}{(1 - 0.30)} \]
Cost of debt = \( \frac{\text{int}}{B_0} (1 - T) = \frac{12}{80} (0.70) \)

Cost of preference capital = \( \frac{\text{Preference dividends}}{v_P} = \frac{2}{20} \times 100 = 10\% \)

ii) Marginal cost of capital

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount (market value)</th>
<th>Weight</th>
<th>Cost</th>
<th>Weight x cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common equity capital</td>
<td>8800</td>
<td>0.6286</td>
<td>0.1651</td>
<td>0.1038</td>
</tr>
<tr>
<td>Preference share capital</td>
<td>2000</td>
<td>0.1429</td>
<td>0.10</td>
<td>0.0143</td>
</tr>
<tr>
<td>10% debenture</td>
<td>3200</td>
<td>0.2286</td>
<td>0.105</td>
<td>0.0240</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1421 x 100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WACC</td>
<td>14.21%</td>
</tr>
</tbody>
</table>

iii) Ways that Jasma Limited in (b) above could be used to issue additional ordinary shares
- Public issue by prospectus
- Private placing
- Stock exchange placing
- Stock exchange introduction
- Offer for sale

June 2009 Question One B

QUESTION 20
a) Distinguish between weighted average cost and marginal cost of capital
- WACC-The overall or composite cost of existing or new 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.

b) i) The weighted average cost of capital

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount (market value) sh. ‘000’</th>
<th>Weight</th>
<th>Cost</th>
<th>Weight x cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common equity capital</td>
<td>45,000</td>
<td>0.7962</td>
<td>0.3191</td>
<td>0.2541</td>
</tr>
<tr>
<td>Preference share capital</td>
<td>7,200</td>
<td>0.1274</td>
<td>0.08</td>
<td>0.0102</td>
</tr>
<tr>
<td>10% debenture</td>
<td>4,320</td>
<td>0.01764</td>
<td>0.0583</td>
<td>0.0045</td>
</tr>
<tr>
<td></td>
<td>56,520</td>
<td>1.0</td>
<td></td>
<td>0.2688</td>
</tr>
<tr>
<td></td>
<td>WACC</td>
<td></td>
<td></td>
<td>26.88%</td>
</tr>
</tbody>
</table>

Market value of:
1) Common equity capital = Number of ordinary shares issued x current market value per share
   = sh. \( \frac{10,000,000}{10} \times 45 = shs. 45,000,000 \)
2) Preference share capital = Number of preference shares issued x current market value per share
   = shs. \( \frac{4800,000}{20} \times 30 = shs. 7200,000 \)
3) 10% debenture = Number of debenture issued x current market value per debenture
   = sh. \( \frac{3600,000}{1000} \times 1200 = shs. 4320,000 \)
IRR = LDR + \[ \frac{NPV @ LDR}{NPV @ LDR + NPV @ HDR} \] (HDR – LDR)

\[
IRR = 10\% + \left[ \frac{230,300.4}{230,000 + 839,113.8} \right] (18\% - 10\%)
\]

= 11.72\%

Advise: Invest in the new project because the internal rate of return is higher than the cost of capital of 10\%.

iii) Main drawbacks of the IRR method:
- It is tedious and time consuming to compute.
- In some instances it gives conflicting results with the NPV technique when ranking mutually exclusive projects.
- In some cases there might be more than one internal rate of return for the same project.
- Some managers confuse the IRR with the ARR.

**QUESTION 23**

a) Advantages of using the market value weights
i) Investments are rated by investors using their returns which are ascertained using the market values of such investment.
ii) When investors acquire investment they pay market prices of such investment and will always compare the viability of their investment using market prices.
iii) Historical book values may not represent the true valuation of capital employed as shown in the balance sheet.
iv) Use of market value weights is more accurate especially for new issues of shares and debentures.
v) The assets used by capital providers as security are valued at market price for collateral purposes.

b) i) Cost of ordinary share capital
\[
Ke = \frac{D}{P_0 - f} \times 100 = \frac{3.8}{30 - 0} \times 100 = 12.67\%
\]

ii) Cost of 8% preference share capital
\[
K_{p(8\%)} = \frac{D}{P_0} \times 100 = \frac{1.92}{20} \times 100 = 9.6\%
\]

iii) Cost of 10% preference share capital
\[
K_{p(10\%)} = \frac{D}{P_0} \times 100 = \frac{2}{25} \times 100 = 8\%
\]

2. Cost of 10% debentures
\[
K_d = \frac{\text{Int} \times (1 - t)}{\text{Vd}}
\]
\[
K_d = \frac{40,000 \times (1 - 0.3)}{Sh500,000} = 5.6\%
\]

\[
\text{Int} = 10\% \times 400,000 = 40,000
\]
\[
\text{Vd} = Sh.500,000
\]
\[
t = 0.3
\]
Since the debenture has 100 years maturity period then \( K_d = \text{yield to maturity redemption.} \)

\[
K_d = \frac{\text{Int}(1 - T) + (m - vd)}{n} \left( \frac{1}{m + vd} \right)^{\frac{1}{2}}
\]

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

\[
K_d = \frac{9(1 - 0.3) + (150 - 100)}{100} \left( \frac{1}{150 + 100} \right)^{\frac{1}{2}} = \frac{6.8}{125} \times 100 = 5.441\%
\]

Cost of preference share capital\( K_p \)

\[ K_p = \text{Coupon rate} = 10\% \text{ since MPS = par value} \]

(ii) WACC or overallcost of capital\( K_o \)

| M.V of equity = 600,000 shares \times sh 60 MPS | Shs |
| M.V of debt = 40,000 debentures \times Sh 100 | 4 |
| M.V of preference shares = 200,000 shares \times Sh 20 | 4 |

\[ K_e = 14\% \quad K_d = 5.44\% \quad K_p = 0\% \]

\[ K_o = \text{WACC} = \frac{36}{44} \times 14\% + \frac{4}{44} \times 5.44\% + \frac{4}{44} \times 10\% \]

\[ = 12.86\% \]

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 = \( 14\% \left( \frac{4}{10} \right) + 5.55\% \left( \frac{6}{10} \right) \)

\[ = 8.86\% \]
SOLUTIONS TO PAST PAPER QUESTIONS ADOPTED FROM PAPER NO.15: ADVANCED FINANCIAL MANAGEMENT

QUESTION 31

a) Credit enhancement is the process of reducing credit risk by requiring collateral insurance or other agreements to provide the lender with the assurance that he will be compensated if the borrower defaulted.

Credit enhancement is a key part of the securitization transaction and is important to credit rating agencies when raising a securitization.

Methods of credit enhancement

i. Excess spread
   Also known as excess interest cash flow. It is the difference between interests received by lenders or issuers of asset based securities (such as mortgages) and interest paid to holders of such securities for example subprime mortgages.

   This surplus interest (usually deposited in reserve account) is used as first line protection.

ii. Over-collateralization
   This is the ratio of assets in liabilities. It occurs when the value of the assets held to support a security is actually greater than the security. The ratio of asset to liability should be greater than 1. This gives the holder a cushion in the event of late or non-payment.

iii. Surety bond
   A surety bond is a promise to pay one party (the oblige) a certain amount if a second party (the principal) fails to meet some obligation, such as fulfilling the terms of a contract. It protects the oblige against losses resulting from the principal's failure to meet obligation.

b) Beta of equity of a geared firm $B_{eq}$

<table>
<thead>
<tr>
<th>Gearing</th>
<th>Geared beta</th>
<th>CAPM</th>
<th>WACC (Ke $E_{D+E}$ + Kd (1-T) $D_{D+E}$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>0.95(1+0.7×0.0.8) = 1.12</td>
<td>$8+(16-8)1.24=17.92$</td>
<td>(16.96×0.8)+[7.5(1-0.3)×0.2]=14.62</td>
</tr>
<tr>
<td>30%</td>
<td>0.95(1+0.7×0.0.7) = 1.24</td>
<td>$8+(16-8)1.39=19.12$</td>
<td>(17.92×0.7)+[8.1(0.7)×0.3]=14.25</td>
</tr>
<tr>
<td>40%</td>
<td>0.95(1+0.7×0.0.6) = 1.39</td>
<td>$8+(16-8)1.62=20.96$</td>
<td>(19.2×0.6)+(8.8×0.7×0.4)=13.98</td>
</tr>
<tr>
<td>50%</td>
<td>0.95(1+0.7×0.0.5) = 1.62</td>
<td>$8+(16-8)1.162=23.60$</td>
<td>(20.96×0.5)÷(10.5×0.7×0.5) =14.16</td>
</tr>
<tr>
<td>60%</td>
<td>0.95(1+0.7×0.0.4) = 1.95</td>
<td>$8+(16-8)1.95=28.00$</td>
<td>(23.60×0.4)+(11×0.7×0.6)=14.06</td>
</tr>
<tr>
<td>70%</td>
<td>0.95(1+0.7×0.0.3) = 2.50</td>
<td>$8+(16-8)2.50=36.88$</td>
<td>(28.00×0.3)+(13×0.7×0.7)=14.77</td>
</tr>
<tr>
<td>80%</td>
<td>0.95(1+0.7×0.0.2) = 3.61</td>
<td>$8+(16-8)3.61=36.88$</td>
<td>(36.88×0.2)+(16×0.7×0.8)=16.34</td>
</tr>
</tbody>
</table>

December 2011 Question Five A and B

QUESTION 32

(a) (i)

<table>
<thead>
<tr>
<th>Debit</th>
<th>Equity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9.4 \times 0.9 = 8.46$</td>
<td>$0.1 \times 37.0 = 3.7$</td>
<td>$12.16$</td>
</tr>
<tr>
<td>$8.2 \times 0.8 = 6.56$</td>
<td>$0.2 \times 36.0 = 7.2$</td>
<td>$13.76$</td>
</tr>
<tr>
<td>$7.4 \times 0.7 = 5.18$</td>
<td>$0.3 \times 35.5 = 10.65$</td>
<td>$15.83$</td>
</tr>
</tbody>
</table>
QUESTION 9

b) i. Security A

<table>
<thead>
<tr>
<th>Probability (P_i)</th>
<th>Return (R_A)</th>
<th>Expected Return (ER_A)</th>
<th>Variance (R_A-R'_A)^2 P_L</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>10</td>
<td>2</td>
<td>0.2(10-10.2)^2 = 0.08</td>
</tr>
<tr>
<td>0.1</td>
<td>12</td>
<td>1.2</td>
<td>0.1(12-10.2)^2 = 0.324</td>
</tr>
<tr>
<td>0.35</td>
<td>8</td>
<td>2.8</td>
<td>0.2(8-10.2)^2 = 1.694</td>
</tr>
<tr>
<td>0.05</td>
<td>15</td>
<td>0.75</td>
<td>0.2(15-10.2)^2 = 1.152</td>
</tr>
<tr>
<td>0.15</td>
<td>14</td>
<td>2.1</td>
<td>0.2(14-10.2)^2 = 2.166</td>
</tr>
<tr>
<td>0.15</td>
<td>9</td>
<td>1.35</td>
<td></td>
</tr>
</tbody>
</table>

R'_A=10.2 Variance (R^2_A) = 5.56

\[ \therefore \text{Standard deviation of returns (} \delta_A) = \sqrt{\text{Variance}} = \sqrt{5.568} = 2.36 \]

ii. Security B

<table>
<thead>
<tr>
<th>Probability (P_i)</th>
<th>Return (RB)</th>
<th>Expected Return</th>
<th>Variance (R_B-R'_B)^2 P_L</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>8</td>
<td>1.6</td>
<td>0.2(8-8.5)^2 = 0.005</td>
</tr>
<tr>
<td>0.1</td>
<td>10</td>
<td>1</td>
<td>0.1(10-8.5)^2 = 0.225</td>
</tr>
<tr>
<td>0.35</td>
<td>7</td>
<td>2.45</td>
<td>0.35(7-8.5)^2 = 0.7875</td>
</tr>
<tr>
<td>0.05</td>
<td>12</td>
<td>0.6</td>
<td>0.05(12-8.5)^2 = 0.075</td>
</tr>
<tr>
<td>0.15</td>
<td>11</td>
<td>1.65</td>
<td>0.15(11-8.5)^2 = 0.9315</td>
</tr>
<tr>
<td>0.15</td>
<td>8</td>
<td>L2</td>
<td>0.15(8-8.5)^2 = 0.0375</td>
</tr>
</tbody>
</table>

R'_B=8.5 Variance (R^2_B) = 2.655

\[ \therefore \text{Standard deviation of returns (} \delta_B) = \sqrt{\text{Variance}} = \sqrt{2.655} = 1.63 \]

iii. Relative risk as measured by coefficient of variation

\[ \text{Coefficient of Variation (CV)} = \frac{\text{Standard deviation (} \delta)}{\text{Expected return (ER)}} \]

\[ \text{Security A (CV}_A) = \frac{2.358}{10.2} = 0.231 \]

\[ \text{Security B (CV}_B) = \frac{1.65}{8.5} = 0.192 \]

August 2009 Question Four B
The machine should not be purchased as it leads to a negative Net present value.

### QUESTION 13

**i. Initial investment cost**

Cost of the new machine = 100,000,000
Add: installation cost 20,000,000
120,000,000

**ii. Annual after tax cash flow**

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6-10</th>
<th>10</th>
<th>11-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>Sh. '000'</td>
<td>Sh. '000'</td>
<td>Sh. '000'</td>
<td>Sh. '000'</td>
<td>Sh. '000'</td>
<td>Sh. '000'</td>
<td>Sh. '000'</td>
<td>Sh. '000'</td>
</tr>
<tr>
<td>Variable cost</td>
<td>(30,000)</td>
<td>(45,000)</td>
<td>(45,000)</td>
<td>(90,000)</td>
<td>(60,000)</td>
<td>(60,000)</td>
<td>-</td>
<td>(100,000)</td>
</tr>
<tr>
<td>Fixed cost</td>
<td>(100,000)</td>
<td>(100,000)</td>
<td>(100,000)</td>
<td>(100,000)</td>
<td>(100,000)</td>
<td>(100,000)</td>
<td>-</td>
<td>(100,000)</td>
</tr>
<tr>
<td>Before tax cash flow</td>
<td>100,000</td>
<td>200,000</td>
<td>200,000</td>
<td>500,000</td>
<td>500,000</td>
<td>300,000</td>
<td>300,000</td>
<td>300,000</td>
</tr>
<tr>
<td>Tax 30%</td>
<td>(30,000)</td>
<td>(60,000)</td>
<td>(60,000)</td>
<td>(150,000)</td>
<td>(150,000)</td>
<td>(90,000)</td>
<td>(90,000)</td>
<td>(90,000)</td>
</tr>
<tr>
<td>Tax shield (30/100 x 5000000)</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>-</td>
<td>1500</td>
</tr>
<tr>
<td>Overhaul tax shield (200000/5 x 30%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1200</td>
</tr>
<tr>
<td>Annual after tax cash flows</td>
<td>71500</td>
<td>141500</td>
<td>35100</td>
<td>311500</td>
<td>211500</td>
<td>212700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overhead cost</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(20000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working capital (40000)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(20000)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Workings**

Depreciation new machine = shs. \( \frac{120,000,000 - 30,000,000}{sh.15} = 6,000,000 \)

Old machine = shs. 40,000,000

Less: depreciation up to date

\( \frac{(40000000 - 0)}{10} \times 5 = 200,000,000 \)

Therefore depreciation = sh. \( \frac{200,000,000 - 50,000,000}{15} = shs. 1,000,000 \) each year

Therefore depreciation = 6,000,000 – 1,000,000 = sh. 5,000,000

**Terminal cash flows**

Salvage value of the new machine after 15 years = shs. 30,000,000

Less: salvage value of old machine after 15 years = shs. \( (5,000,000) \)

Release working capital = 40,000,000

65,000,000
W2:

| Credit sales | \[3/4 \times 26,000\] = 19,500 |
| Cash sales | \[1/4 \times 26,000\] = 6,500 |

The estimated annual average working capital is determined as follows:

<table>
<thead>
<tr>
<th>Average assets per annum</th>
<th>Shs ‘000’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Closing stock balances</strong></td>
<td></td>
</tr>
<tr>
<td>Average raw material stock (\frac{2}{12}) \times 10,400</td>
<td>1,733,333</td>
</tr>
<tr>
<td>Average work in progress stock (\frac{1}{12}) \times 22,100</td>
<td>1,841,667</td>
</tr>
<tr>
<td>Average stock of finished goods (\frac{5}{12}) \times 22,100</td>
<td>2,762.50</td>
</tr>
<tr>
<td>Debtors (\frac{3}{12}) \times 19,500</td>
<td>4,875</td>
</tr>
<tr>
<td>Cash balance</td>
<td>240</td>
</tr>
<tr>
<td>Total current assets</td>
<td>11,452.50</td>
</tr>
</tbody>
</table>

**June 2010 Question Three A**

**b) Advice on whether it is worthwhile to ease the collection efforts**

1. Saving on 2011 expenses
2. Increase in sales contribution (sales – variable costs)

**Costs**

- Bad debts increase
- Opportunity cost on receivables

**Mapema limited**

**Statement of additional annual financial benefit (costs)**

<table>
<thead>
<tr>
<th>Proposed policy</th>
<th>Current policy</th>
<th>Additional benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales 2,336,000</td>
<td>2,304,000</td>
<td>32,000</td>
</tr>
<tr>
<td>Variable costs (2,044,000)</td>
<td>(2,016,000)</td>
<td>(28,000)</td>
</tr>
<tr>
<td>Increase in sales contribution</td>
<td>4,000</td>
<td></td>
</tr>
<tr>
<td>Savings in collection</td>
<td>40,000</td>
<td>44,000</td>
</tr>
</tbody>
</table>

**Expenses**

- Increase in bad debts (46,720 -23,040) (23,680)
- Increase in opportunity cost (376,356-25,600)x 24% (28,885)
- Net cost (8,565)

**Advice**

It’s not worthwhile to ease collection efforts since additional annual financial cost will be more than additional financial benefits.

Investment in receivables (average debtors) = \(\frac{Annual\ credit\ sales}{360}\) \times average collection

**Proposed policy**

\[
\frac{2,304,000}{360} \times 256,000
\]
QUESTION 20

<table>
<thead>
<tr>
<th></th>
<th>Proposed policy</th>
<th>Current policy</th>
<th>Additional benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales decrease</td>
<td>2,600,000</td>
<td>3,000,000</td>
<td>(400,000)</td>
</tr>
<tr>
<td>Variable cost 70%</td>
<td>1,820,000</td>
<td>2,100,000</td>
<td>280,000</td>
</tr>
<tr>
<td>Decrease in sales contribution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decrease I interest cost (500,000-252178) x 11%</td>
<td></td>
<td>27,194.42</td>
<td></td>
</tr>
<tr>
<td>Decrease in tax (92,805 ×30)</td>
<td></td>
<td></td>
<td>27,841.67</td>
</tr>
</tbody>
</table>

Accounts receivables

<table>
<thead>
<tr>
<th></th>
<th>Current policy</th>
<th>Proposed policy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \frac{5,000,000}{360} \times 60 )</td>
<td>( \frac{2,600,000}{360} \times 35 )</td>
</tr>
<tr>
<td></td>
<td>= 500,000</td>
<td>= 252,778</td>
</tr>
<tr>
<td>500,000 – 25,778 x 11%</td>
<td></td>
<td>= 27,194.42</td>
</tr>
</tbody>
</table>

Advice
The company should not change its credit terms to net 30 days as this will result to a net cost.  

June 2007 Question Two B
Debtors = \frac{\text{collection period} \times \text{credit}}{360} \\
= \frac{18 \times 20}{360} \\
= 1 \text{ million}

Inventory = \frac{\text{cost of sales}}{\text{turnover}}

Cost of sales = \text{sales} - \text{gross profit} = 20 - 5 = 15

**December 2013 Question Three B**

**QUESTION 2**

b) **Return On Capital Employed**

<table>
<thead>
<tr>
<th>Equity finance</th>
<th>Debt finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sh. “million”</td>
<td>Sh. “million”</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
</tr>
</tbody>
</table>

\(\text{Equity finance} = \frac{5 \text{ million}}{20 \text{ million}} \times 100\% = 25\%\)

\(\text{Debt finance} = \frac{5 \text{ million}}{20 \text{ million}} \times 100\% = 25\%\)

ii. **Return on equity**

<table>
<thead>
<tr>
<th>Equity finance</th>
<th>Debt finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sh. “million”</td>
<td>Sh. “million”</td>
</tr>
<tr>
<td>Operating profit</td>
<td>5.0</td>
</tr>
<tr>
<td>Finance charges</td>
<td>4.0</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>1.5</td>
</tr>
<tr>
<td>Tax @ 30%</td>
<td>0.5</td>
</tr>
<tr>
<td>Profit after tax</td>
<td>1.0</td>
</tr>
</tbody>
</table>

\(\text{Return on equity} = \frac{3.5}{20} \times 100\% = 17.5\%\)

\(\text{Return on equity} = \frac{2.8}{10} \times 100 = 28\%\)

iii. **Impact of the performance of Docarex Ltd**

- When considering the return on equity (ROE), the-geared option (debt finance) achieves a higher return than the equity finance option.
- This is because the debt (10%) is costing less than the return on capital (25%).
- The excess return on that part funded by debt passes to the shareholder enhancing their return.

**June 2013 Question Three B**

**QUESTION 3**

d) **Financial performance year 2012**

<table>
<thead>
<tr>
<th>Sh.(million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
</tr>
<tr>
<td>Cost of sales less depreciation</td>
</tr>
<tr>
<td>Gross profit</td>
</tr>
</tbody>
</table>
| Gross profit percentage = \frac{100}{200} \times 100 = 50\% | }
QUESTION 7
Problems that could be faced by a firm with a high gearing level:

i) High fixed interest payments which could lead to liquidation if not paid
ii) Low earnings per share if the firm records poor performance
iii) High risk as perceived by investors. The firm find it difficult to raise additional funds or cost of additional funds would be too high

May 2012 Question Three A

QUESTION 8
a. Explain the purpose of financial ratio analysis and why a careful reading of the financial statements is not enough.
   • Ratios help in determining the liquidity levels of the firm
   • Necessary for determining the gearing level of the firm
   • They determine in determining the performance of the firm in terms of profitability and even try to make comparisons with other firms in the same industry.
   • Help in determining the turnover of stocks.

December 2010 Question Five E

QUESTION 9
i. Amount of external financing
   Expected sales for the year ended 31st December 2010

   = 20,000,000 + 4,000,000 = shs. 24,000,000

   Balance sheet item % sales
   Fixed assets \( \frac{13}{20} \times 100 = 65 \)
   Stock \( \frac{3}{20} \times 100 = 15 \)
   Debtors \( \frac{2}{20} \times 100 = 10 \)
   Total assets \( \frac{9}{20} \times 100 = 30 \)
   Increase in total assets = 4,000,000 \times 90\% = shs. 3,600,000
   Less increase in liabilities 30\% \times 4,000,000 = shs. (1,200,000)
   Expected retained earnings 24,000,000 (0.08) (0.30) = shs. (576,000)
   External financial requirement = shs. 1,824,000

ii. Proforma statement of financial position

Mageuzi limited
Proforma balance sheet as at 31st December 2010

<table>
<thead>
<tr>
<th>Workings</th>
<th>Shs. ‘000’</th>
</tr>
</thead>
<tbody>
<tr>
<td>65% x 24000</td>
<td>Net fixed assets 15,600</td>
</tr>
<tr>
<td>15% x 24000</td>
<td>Stock 3,600</td>
</tr>
<tr>
<td>10% x 24000</td>
<td>Debtors 24,000 (21,600)</td>
</tr>
<tr>
<td><strong>Financed by</strong></td>
<td></td>
</tr>
<tr>
<td>OSC</td>
<td>4,000</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>6,576</td>
</tr>
<tr>
<td>Creditors</td>
<td>7,200</td>
</tr>
<tr>
<td>Commercial paper</td>
<td>1,824</td>
</tr>
<tr>
<td>Long term debt</td>
<td>2,000      (21,600)</td>
</tr>
</tbody>
</table>

June 2010 Question Two B
Comment:

i) Liquidity
   a) Classification: This can be observed using the Acid test ratio.
   b) Observation: The co. has a higher acid test ratio than the industry average in both cases this ratio is greater than the recommended level of 1:1
   c) Reason: The companies in this industry may be holding more liquid current assets instead of investing the funds in long-term projects.
   d) Implications: This implies that the firms in this industry will be liquid most of the time but their profitability is likely to decrease because the return of current assets is less than the return of long term projects.

ii) Profitability
   a) Classification: This can be observed using the return on equity ratio.
   b) Observation: The ratio for the company is less than that of the industry average.
   c) Reason: This is because the company is less profitable than that of the industry average.
   d) Implication: This is because the co. has more current assets compared with the industry average.

iii) Gearing
   a) Classification: This can be observed by using the capital-gearing ratio.
   b) Observation: The ratio for the company is higher than that of the industry average.
   c) Reason: This is because the company has used more fixed return capital (Debt) in its capital structure.
   d) Implication: This implies that the co. will be paying more fixed financing charges in the form of interest compared with the industry average.

QUESTION 20

a) Limitations of Ratio
   i. They are historical in nature.
   ii. They ignore the effect of inflation on the performance of the firm.
   iii. Differences in accounting policies by firms.
   iv. Different firms in the same industry have different sizes, levels of technology and diversification of risks.
   v. It is not possible to carry out a cross-sectional and industrial analysis for monopolistic firms.
   vii. Different writers and users may interpret and compute similar ratios differently. This impairs the extent to which ratios can be relied upon.

b)  

<table>
<thead>
<tr>
<th>Ratio:</th>
<th>Formular</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Acid Test Ratio</td>
<td>CA – Stock</td>
<td>205,900 – 150,000 = 0.404:1</td>
</tr>
<tr>
<td></td>
<td>CL</td>
<td>138,300</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii) Operating Margin Ratio</td>
<td>EBIT x100</td>
<td>127,000 ÷ 4000 x 100 = 14.56%</td>
</tr>
<tr>
<td></td>
<td>Sales</td>
<td>900,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii) ROCE</td>
<td>Net II(EAT)x 100</td>
<td>88,900 x100  = 31.58%</td>
</tr>
<tr>
<td></td>
<td>Capital Employed</td>
<td>281,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv) P/E Ratio</td>
<td>MPS but EPS = Earning to Ord.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EPS</td>
<td>88.9M – 4.8M = Ah. 8.41</td>
</tr>
<tr>
<td></td>
<td>No. of Ord. Shares</td>
<td>10M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P/E Ratio = Sh 20</td>
<td>Sh.8.41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.378 Times</td>
</tr>
</tbody>
</table>
TOPIC 11
DIVIDEND POLICY

QUESTION 1
c) Types of dividends which a corporate entity could play its shareholders:
   - **Payment of cash dividends.**
     This is where shareholders are given dividends in cash form.
   - **Bonus issue**
     This involves giving shares to the existing shareholders instead of cash dividends.
     The shares will be given in proportion to the shareholders ownership.
   - **Stock split**
     This is the process by which a company undertakes to reduce the par value of its shares and to increase the number of ordinary shares by the same proportion.
   - **Reverse stock split**
     This involves the consolidation of the shares into bigger units or stocks. In this case, the number of ordinary shares is reduced while the par value of the share is increased by the same proportion that has been used to reduce the number of the ordinary shares.
   - **Stock or share repurchase**
     This is where the company buys back some of the shares it had previously issued using the cash that would have been paid out as dividend.

QUESTION 2
(b) Factors to consider in formulating the dividend policy
   - **Profitability**
     A company needs to be profitable enough to consistently pay dividends and maintain a level of retained earnings to finance growth.
   - **Liquidity**
     There must be sufficient cash to pay proposed dividend without compromising day to day cash financing needs.
   - **Legal and other constraints**
     Dividend must only be paid in accordance with statutory requirements. Such dividends must be paid out of accumulated net profits. Other restrictions may result from restrictive covenants in loan issue documents.
   - **Need for finance**
     Investment plans and financing needs of the company should be considered. It may be necessary to limit the need for external finance by keeping dividend increase in check.
   - **Level of financial risk**
     Maintaining a low level of dividend payment can result to high level of retained earnings which will reduce gearing by increasing the level of reserves.
   - **Signalling effect**
     In a semi-strong form of efficient market, information available to directors is more substantial than that available to shareholders. If dividend decisions convey new information to the market, they have a signalling effect concerning the current position of the company and its future prospects.
(c) Whether payment of dividends does not affect value of the firm (MM theory)

Value of firm when dividend is paid

Step I
Market price of share ($P_1$) at the end of the year

\[ P_0 = \frac{D_1 + P_1}{1 + R} \]

Dividends ($D_1$) = 10 × 0.5 = 5

\[ 120 = \frac{5 + P_1}{1.1} \]

\[ P_1 = 132 - 5 = \text{Sh.} 127 \]

Step II
Amount of retained earnings

\[
\text{Retained earnings} = \text{Earnings} - \text{Total dividend} \\
= 3,000,000 - (5 \times 250,000) \\
= \text{Shs.} 1,750,000
\]

Step III
Amount to be raised externally

\[
\text{Amount to be raised externally} = \text{Initial Requirement} - \text{Retained earnings} \\
= 6,000,000 - 1,750,000 \\
= \text{Shs.} 4,250,000
\]

Step IV
Amount of ordinary shares to be issued

\[
\text{No. of shares to be issued} = \frac{\text{Amount to be raised externally}}{\text{Market price}} \\
= \frac{4,250,000}{127} = 33,464.5669 \text{ shares}
\]

Step V
Value of the firm ($P_0$)

\[
P_0 = \frac{(N + M) P_1 - T_0 + K}{1 + R}
\]

\[
N \text{ is current number of shares} \\
M \text{ is the new number of shares} \\
P_1 \text{ is the market price per share} \\
R \text{ is the cost of capital} \\
T_0 \text{ is investment proposal cost} \\
K \text{ is expected income}
\]

\[
= \frac{127(250,000 + 33,464.5669) - 6,000,000 + 3,000,000}{1.1} = \text{Sh.} 30,000,000
\]
QUESTION 10

a. Arguments in favour of stable dividend policy

(1) **Desire for Current Income:** Some investors like old persons, widows etc. desire to get stable current income to meet their living expenses. They invest their savings in shares with a view to get regular income for their living. If they get low dividend, they would be compelled to sell some of their shares to meet their living expenses. So they would prefer to invest in shares of those companies which pay regular and stable dividend and would be prepared to pay a little high price for shares of such companies.

(2) **Removes Investors' Uncertainty:** The stable dividend policy removes uncertainty in investors' mind about dividend payment. Even if the earnings of the company decline and the company continues to pay the constant amount of dividend, it would indicate that the management views the bright future prospects for the company. Thus, the changes or no changes in dividends work as a source of information about firm's profitability.

(3) **Additional Finance:** The credit standing and prestige of the company paying stable dividend increases in the eyes of the investors. When the company wants to raise additional finance, investors would be willing to buy its shares or debentures. Particularly, small investors requiring regular income would like to invest their savings in shares of companies paying stable dividends. Even the preference shares and debentures of such companies would be easily subscribed, as the investors feel that such company would pay regular interest or dividend.

(4) **Ploughing back of Profits:** A company paying a reasonable proportion of stable dividend is able to retain good amount of profit with it, which it can plough back in the business. It is not compelled to resort to external financing for expansion purposes. The well-known large companies follow this stable dividend policy with great care and caution. Hence, they can use their retained earnings for future expansion.

(5) **Stable Share Prices:** A company paying regular and stable dividend has a high credit standing in the financial market and its share prices remain at a high level. Besides share prices remain stable over a period of time and do not fluctuate violently as in case of other speculative shares.

(6) **Leads to Management Efficiency:** As stable dividend policy implies regular payment of dividend, the company has to earn profits every year which makes management more conscious towards their duties. This would lead to more efficient management.

QUESTION 11

b) The share price of the company

(i) If the company does not announce the change of dividend policy

\[
P_0 = \frac{d_0 (1+g)}{K_S - g} = \frac{d_1}{K_S - g}
\]

\[
D_0 (2009) = 8.20; K_S = 12\% 
\]

\[
G = \text{(Historical growth)} 
\]

Thus \( g = \frac{8.2}{7.7} - 1 \)

Therefore \( g = 1.0159 - 1 = 0.01586 = 1.586\% \)

If a firm is financed solely by equity, the cost of equity is equal to the overall cost of capital. Thus \( K_S = WACC = 12\% \)

\[
P_0 = \frac{d_0 (1+g)}{K_S - g} = \frac{8.20 (1+1.59)_{100}}{12\% - 1.59\%} = \frac{8.20 (1.0159)}{0.1041} = \text{shs 80}
\]
TOPIC 12
PUBLIC FINANCE

QUESTION 1
a)
(i) Explain what a public enterprise is
Public enterprise restructuring involves turning around public enterprises to convert them from inefficient loss making and non-competitive enterprise to efficient, profitable and competitive institutions.

(ii) Forms of corporate restructuring:
• Privatisation - Conversion of public enterprises into private ones through the sale of the whole or part of the public enterprise.
• Concession - Where a private enterprise is granted some rights to produced goods and services on behalf of the public enterprise.
• Strategic partnership – Where the enterprise partners with a private investor.
• Lay-offs - introducing voluntary early retirement or terminating all or some of the employees.

QUESTION 2
(a)
(i) The Budget cycle
The budget cycle is the period which begins with the initiation of the preparation of the central government budget for any new financial year. The cycle starts with the budgetary estimates preparation stage, through the authorisation of estimates into budgets for spending, the processes of spending such amounts authorised and the final accountability of such spending to Parliament as confirmed by the audit of the financial reports revealing the spending.

For an efficient budget cycle and budget preparation, there is the concept of Public Expenditure Survey (PES) that adds more value to the annual budgeting process.

PES in government financial administration is a process that involves the examination of spending activities of public sector organisations and how such expenditures have been felt through projects and developments in the economy.

A good system of PES enables governments to note their progress and to take decisions on annual public finances, and new public expenditure plans for new year(s).

(ii) Functions of the Controller of Budget:
- Monitoring of revenue generation and collection by the agencies of government.
- Revenue estimation and publication in the budget book.
- Implementing the budget through the issuance of authority to incur expenditure papers for both capital and recurrent expenditure.
- Assembling, collating and arranging all data, information and other necessary inputs required for budget preparation.
- Rendering reports on the performance of the yearly budget and assessing its impact on the economy.
- Collection and analysis of expenditure returns.
- Establishing and maintaining a data bank in the budget office.
- Monitoring and evaluating the performance of programmes funded through the budget.
- Formulating fiscal monetary and economic policies required to develop the economy.