CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

THURSDAY: 24 April 2025. Afternoon Paper. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings. Do NOT write anything on this paper.

QUESTION ONE

(a) In relation to green finance:

(i) Explain the term "Environmental, Social and Governance (ESG) investing". (2 marks)

(ii) Highlight **FOUR** benefits of effective management of a company's sustainability agenda. (4 marks)

(b) Nanyuki Resort is considering various levels of debt finance its expansion programme. Currently, the firm has a total market value of Sh.15 million and has no debt. By undertaking financial leverage, the company believes that it can achieve a net corporate plus personal tax advantage equal to 20% of the market value of debt. However, the company is concerned with bankruptcy and agency costs as well as lenders increasing their required interest rate if the firm borrows too much. The present value of cost of bankruptcy, agency and interest rate under various levels of debt is shown below:

Debt Sh."million"	Present value of cost of bankruptcy, agency and interest rates Sh."million"
5	0
10	0.6
15	1.2
20	2
25	3.2
30	5

Required:

Advise Nanyuki Resort on the optimal amount of debt that it should consider. (4 marks)

(c) In the year 2024, Shapira Ltd. paid dividends totalling to Sh.3.6 million on a net income of Sh.10.8 million. The year 2024 was a normal year and for the past 10 years, earnings had grown at a constant rate of 10% per annum. However, in the year 2025, earnings are expected to increase to Sh.14.4 million and the company expects to have profitable investment opportunities worth Sh.8.4 million. It is predicted that Shapira Ltd. will not be able to maintain the year 2025 level of earnings growth in the future years. The high earnings level in the year 2025 is attributable to an exceptionally profitable new product line introduced early in the year and the company will return to its previous 10% growth rate thereafter. The firm's target debt ratio is 40%.

Required:

Calculate Shapiro Ltd.'s dividend for the year 2025 assuming it adopts each of the following independent policies:

(i) Constant payout ratio policy. (2 marks)

(ii) Stable predictable dividend policy. (2 marks)

(iii) Pure residual policy. (3 marks)

(iv) Regular plus extra dividend policy. (3 marks)

(Total: 20 marks)

QUESTION TWO

(a) Discuss **THREE** responsibilities of Sharia Supervisory Board in the management of Islamic mutual fund. (6 marks)

(b) Desla Ltd. has devised a new technology based on which it plans to launch a new line of print media products.

Additional information:

1. The firm intends to spend Sh.1.6 million on the new plant and equipment and Sh.400,000 in expanding its building facilities to house the project.
2. The project has an estimated useful life of eight years.
3. Assume for tax purposes, that the machinery, equipment and building will be depreciated on a straight-line basis over its economic life.
4. In the first year of operation, Desla Ltd. is expected to generate sales revenue of Sh.600,000. These revenues are expected to stay at the same level until year 3 but are subsequently expected to grow by 10% annually until year 6, after which the revenues are expected to decline by 5% per year to perpetuity.
5. First year operating costs will be Sh.150,000. In subsequent years, these costs are expected to grow in proportion to sales revenues.
6. The corporate tax rate is 30%.
7. At the end of project economic life, the plant and equipment will have no salvage value.
8. The expanded building facilities will also have no salvage value.
9. The cost of capital is 12%.

Required:

Calculate the following for the project:

(i) The net present value (NPV). (10 marks)

(ii) The payback period. (4 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain **THREE** managerial compensation and incentives that organisations could use to align the interest of managers with stakeholders' interests. (6 marks)

(b) Gamma Ltd. has earnings before interest and tax (EBIT) of Sh.2.5 million and is planning to issue Sh.10 million in debt at an annual interest rate of 6%. The corporate tax rate is 30%.

Required:

Assuming that the company has 1 million outstanding shares, calculate the effect of leverage on the company's earnings per share (EPS) under the following scenarios:

(i) Without leverage. (2 marks)

(ii) With leverage. (2 marks)

(c) Jupiter Ltd. currently operates with terms of net 75 days. The firm's current average investment in accounts receivable is Sh.5,040,000 and 60% of the firm's sales are always on credit. The current total sales amount to Sh.40,320,000.

Additional information:

1. The firm's total turnover is expected to increase by 30% as a result of relaxing the terms of sales.
2. The company is considering introducing terms of 3/15 net 90 days.
3. All cash customers and 60% of the credit customers will take advantage of the cash discount offer.
4. The firm's average collection period will rise from current level of 75 days to 80 days.
5. Bad debts are expected to remain at 5% of the credit sales.
6. Inventory levels are estimated to be 5% of the firm's total turnover.
7. The gross profit margin on sales is 40%.
8. The cost of capital is 16%.
9. Corporation tax rate applicable is 30%.

Assume that a year has 360 days.

Required:

Using suitable computations, advise the management of Jupiter Ltd. whether to adopt the new credit policy. (10 marks)

(Total: 20 marks)

QUESTION FOUR

(a) In relation to analysis of corporate growth and restructuring, explain the following portfolio restructuring terms:

(i) Divestments. (2 marks)

(ii) Demergers. (2 marks)

(iii) Equity curve outs. (2 marks)

(b) Phoenix Ltd. intends to finance its operations through share repurchase programme. The Chief Financial Officer (CFO) has provided the following information:

- Current share price Sh.40
- Shares outstanding before purchase 10,000,000
- Earnings per share (EPS) before repurchase Sh.3.00
- Earnings yield 12%
- After-tax cost of borrowing 7%
- Planned payback 500,000 shares
- Earnings remain the same after the repurchase programme.

Required:

(i) Calculate the earnings per share (EPS) after the share repurchase. (3 marks)

(ii) Calculate the earnings per share (EPS) assuming that the after-tax cost of borrowing rises to 9%. (3 marks)

(c) AB Ltd. is considering acquiring LK Ltd. through a share for share exchange.

Under the terms of the acquisition, AB Ltd. will offer two of its shares in exchange for every three shares in LK Ltd.

The summarised financial information relating to the two companies for the year ended 31 March 2025 are as shown below:

	AB Ltd.	**LK Ltd.**
Profit after tax (Sh."million")	231.75	46.35
Number of shares (million)	38.625	12.36
Earnings per share (Sh.)	7.416	4.635
Market price per share (Sh.)	99.30024	42.96645
Price earnings (P/E) ratio	13.39 times	9.27 times

Required:

(i) The earnings per share (EPS) of the combined company after the merger. (2 marks)

(ii) If the price earnings ratio after the merger falls to 12 times, determine the premium received by the shareholders of LK Ltd. (3 marks)

(iii) If the price earnings ratio after merger falls to 12 times, determine whether the merger would be beneficial to the shareholders of AB Ltd. Justify your answer. (3 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Comparative advantage of risk taking incorporates risk management. Despite the fact that excessive risk can lead to negative outcomes, taking calculated risk can offer several advantages.

In relation to the above statement, describe **THREE** benefits that a firm could derive by taking calculated risk. (6 marks)

(b) Lockwood Ltd. intends to increase its working capital by Sh.4.4 million. The following financing alternatives are available:

1. Forego cash discounts (granted on a basis of "3/10, net 30") and pay on the final due date.
2. Borrow Sh.5 million from the bank at 15% interest. This alternative would necessitate maintaining a 12% compensating balance.

3. Issue Sh.4.7 million of six month commercial paper to net Sh.4.4 million. Assume that new commercial paper would be issued every six months.

Assuming there are 365 days in a year.

Required:

(i) Calculate the annualised cost of each alternative. (3 marks)

(ii) Recommend the cheapest source of funds. (1 mark)

(c) Vine Ltd., an all-equity beverages manufacturing firm, is about to embark on a major diversification project into the consumer electronic industry.

The firm's current equity Beta is 1.4, while the average equity Beta (B) of electronic firm is 1.8.

Gearing in the electronic industry average 30% debt and 70% equity. Corporate debt is considered to be risk-free.

Additional information:

1. Expected rate of return on the market (Rm) is 25%.
2. Risk free rate of return is 10%.
3. Corporation tax rate is 30% per annum.

Required:

Determine a suitable discount rate for the new investment assuming that Vine Ltd. was to be financed by each of the following ways:

(i) 30% debt and 70% equity. (3 marks)

(ii) 20% debt and 80% equity. (4 marks)

(iii) 40% debt and 60% equity. (3 marks)

(Total: 20 marks)

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CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

WEDNESDAY: 4 December 2024. Afternoon Paper. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings. Do NOT write anything on this paper.

QUESTION ONE

(a) Argenti's Model is one of the models of predicting corporate failure. Under the symptoms of failure which is the final stage of the process, Argenti classified such symptoms of failure using some categories.

Required:
Assess **THREE** categories of symptoms of failure under Argenti's Model classification. (6 marks)

(b) The following information relates to an investment being undertaken by Kepha Ltd.:

Year	Expected cash flows (Sh."000")	Certainty equivalent coefficient
1	1,000	0.90
2	1,500	0.85
3	2,000	0.82
4	2,500	0.84

The initial cash flow is Sh.4,500,000 and the risk free rate is 5%.

Required:
Calculate the net present value under certainty equivalent technique. (4 marks)

(c) George Muturi is interested in buying Wholly Foods Company. After conducting preliminary due diligence, he obtained the following financial information:

1. The current annual sales are Sh.1.4 million and the growth rates for the next four years are estimated to be 12%, 11%, 10% and 9% respectively. In year 5 and thereafter the growth rate will stabilise at 8% to perpetuity.
2. The pretax profit margin is 15% and this margin can be maintained in the foreseeable future.
3. Depreciation expenses are calculated at the rate 12% of the operating income.
4. The working capital requirements are 22% of sales. The current working capital is Sh.200,000.
5. The additional capital expenditure requirements are estimated to be 10% of sales for year 1 and year 2, reducing to 6% from year 3 and thereafter in subsequent years.
6. The corporate tax rate is 30%.
7. Wholly Food Company's total external borrowing amount to Sh.100,000.
8. The cost of capital for the company is 16%.

Required:
Calculate the value of equity for Wholly Foods Company. (10 marks)
(Total: 20 marks)

QUESTION TWO

(a) Summarise **FOUR** emerging trends of dividend policy in corporate firms. (4 marks)

(b) Describe **THREE** modern risks emerging from ecological, social and geopolitical environment in the context of green finance. (6 marks)

(c) In the year 2023, Elgon Ltd. reported the following preliminary financial data:

	Sh.
Sales	3,919,500
Net income	22,800
Total assets	3,995,002
Total equity	929,700
Dividends	0

Required:
Calculate the sustainable growth rate for the company. (3 marks)

(d) Karibu Ltd. intends to have a strategic merger in the future. The following information relates to the company:

1. Currently:

	Sh."000"
Ordinary shares of Sh.5 each par value	50,000
Current dividends	16,000

2. The company could suspend dividends for two years and then pay dividend of Sh.2.50 per share from the end of the third year, increasing dividends annually to 4% per year in subsequent years.
3. Karibu Ltd. has a cost of equity of 9% per year which is expected to remain constant. Dividends in recent years have grown by 3% per year, that is, before merger.
4. The dividend growth model can give a value of Karibu Ltd. at the end of the second year of not paying dividends, based on the dividend paid from the end of the third year onwards.

Required:
(i) Using the dividend valuation model, determine the value of Karibu Ltd. using the above information after making the strategic changes. (4 marks)

(ii) Using the existing 3% dividend growth rate, determine the increase in shareholders wealth as a result of strategic value calculated in (d) (i) above. (3 marks)

(Total: 20 marks)

QUESTION THREE

(a) Describe **THREE** comparative advantages of risk taking in relation to corporate risk management. (6 marks)

(b) Mambo Industries Limited has 200 million shares outstanding, a current share price of Sh.30 with no debt. The management of Mambo Industries Limited believes that the shares are underpriced and that the true value is Sh.35 per share. The firm plans to pay Sh.600 million in cash to its shareholders by repurchasing shares at the current market price. Suppose that soon after the transaction is completed, new information comes out that causes investors to revise their opinion of the firm and agree with the management's assessment of its value.

Required:
Determine the net gain for long term shareholders after the management repurchases the shares before the new information comes out. (4 marks)

(c) XYZ Ltd. has 10 million ordinary shares outstanding, which are currently trading at Sh.15 per share and have an equity beta of 1.2. The firm has 20,000 outstanding bonds, with a 6% coupon rate, payable semi-annually and due in 10 years time. The bonds are rated BBB. Currently, the credit spread for BBB is 95 basis points over equivalent maturity Government of Kenya debt. The current yield on 10-year Kenya bond is 4%, compounded semi-annually. The risk free interest rate is 2.5% and the market risk premium is 6.5%. The corporate tax rate is 30%. The bond face value is Sh.1,000.

Required:
(i) Calculate the firm's weighted average cost of capital (WACC). (4 marks)

(ii) Calculate the firm's unlevered beta. (3 marks)

(iii) Calculate XYZ Ltd.'s weighted average cost of capital (WACC) assuming that the firm was 50% debt financed. Assume that the beta of its debt is unchanged by the change in capital structure. (3 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Outline **FOUR** advantages of lease financing to the lessor. (4 marks)

(b) QAR Ltd. has a policy of maintaining a minimum cash balance of Sh.5 million. The standard deviation of the company's daily cash flows is Sh.2 million. The annual interest rate is 14%. The transaction cost of buying or selling securities is Sh.1,500 per transaction.

Assume a year has 365 days.

Required:
Using the Miller-Orr model, determine:

(i) The firm's upper control limit. (2 marks)

(ii) The return point. (2 marks)

(iii) The average cash balance. (2 marks)

(c) Duma Ltd. is considering to raise an additional Sh.20 million in order to finance an expansion programme. The company's current capital structure is given as follows:

	Sh."000"
Ordinary share capital (Sh.50 par value)	100,000
Reserves	40,000
12% debenture capital	40,000
10% preference share capital	20,000
	200,000

Additional information:

1. The company is considering raising the funds using two alternative financing options namely:
   Option A:
   To raise all the funds through the issue of new ordinary shares at par.
   Option B:
   To raise half of the funds through the issue of new ordinary shares at par and the balance through the issue of new 16% debenture at par.
2. The corporate tax rate is 30%.

Required:

(i) Earnings before interest and tax (EBIT) at the point of indifference in company's earnings for each financing option. (8 marks)

(ii) Earnings per share (EPS) at the point of indifference in (c) (i) above. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) State **FOUR** drawbacks faced by Islamic financial institutions in implementing Islamic finance. (4 marks)

(b) In relation to agency theory, shareholders may prejudice the interest of long term creditors.

Required:
Explain **THREE** ways in which shareholders may prejudice the interest of long term creditors hence leading to conflicts of interest in the firm. (6 marks)

(c) Rukwa Ltd. is considering a project with the following cash flows:

Year	**Cost of the plant Sh."000"**	**Running costs Sh."000"**	**Savings Sh."000"**
0	30,000		
1		12,000	36,000
2		15,000	42,000

Rukwa Ltd.'s cost of capital is 20%.

Required:
Evaluate the sensitivity of the project to changes in each of the following factors assuming each factor is varied adversely by 10%:

(i) Cost of plant. (3 marks)

(ii) Running costs. (3 marks)

(iii) Savings. (3 marks)

(d) Identify the factor that is most sensitive to adverse variations based on your results in (c) (i) to (c) (iii) above. (1 mark)

(Total: 20 marks)

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CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

WEDNESDAY: 21 August 2024. Afternoon Paper. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings. Do NOT write anything on this paper.

QUESTION ONE

(a) In the context of corporate risk management, understanding different types of financial crises is essential in order to develop strategies that could mitigate potential risks.

Required:
In relation to the above statement, explain **THREE** types of financial crises. (6 marks)

(b) Kugo Ltd. is an unlevered firm. The firm expects to generate earnings before interest and tax (EBIT) of Sh.20 million each year in perpetuity. The firm's current market value is Sh.120 million and pays corporation tax at the rate of 30%. The management of the firm is considering the use of debt financing. The firm's financial analyst has estimated that the present value of any future financial distress costs is Sh.100 million and that the probability of financial distress would increase with leverage according to the following schedule:

Value of debt (Sh."million")	Probability of financial distress	Pre-tax cost of debt (%)
25	0.000	7
50	0.0125	8
75	0.0250	9
100	0.0625	10
125	0.1250	11
150	0.3125	12
200	0.750	13

Required:

(i) The current cost of equity and weighted average cost of capital (WACC) of the firm. (2 marks)

(ii) The firm's optimal level of debt financing using the "pure" Modigliani and Miller with corporate tax model. (6 marks)

(iii) The firm's optimal level of debt finance using Modigliani and Miller with corporate taxes and financial distress. (6 marks)

(Total: 20 marks)

QUESTION TWO

(a) Assess **THREE** cases for international standardisation and regulation of Islamic finance using religious and prudential guidance. (6 marks)

(b) Bingo Ltd. makes cash payments of Sh.40,000 per week. The interest rate on marketable securities is 12% per annum and every time the company sells marketable securities, it incurs a cost of Sh.50. Assume a year has 50 weeks. Using Baumol's cash management model, determine:

(i) The optimal cash balance. (4 marks)

(ii) The total cost of maintaining the cash balance per annum. (2 marks)

(c) Zeus Ltd., a company that manufactures mobile communication gadgets, intends to acquire Hera Ltd. which is involved in developing communication and networking software.

The following financial information is provided for the two companies:

	Zeus Ltd.	**Hera Ltd.**
Current share price	Sh.6.00	Sh.2.50
Number of issued shares	210 million	200 million
Equity beta	1.30	1.30
Asset beta	0.90	1.20

Additional information:

1. Free cash flow to the combined company will be Sh.220 million in current value terms and this will increase by an annual growth rate of 8% for the next four years before reverting to an annual growth rate of 3% in perpetuity.
2. The combined operations of the companies will result in cash savings of Sh.30 million per annum for the next four years.
3. The debt equity ratio of the combined company will be in the ratio of 4:6 in market value terms and it is expected that the combined company's cost of debt will be 7%.
4. Corporation tax of 30% applies to the company.
5. The current risk free rate is 4% and the market risk premium is 6%.
6. It can be assumed that the combined company's asset beta is the weighted average of the respective companies asset betas.

Required:

(i) Asset beta of combined firm. (2 marks)

(ii) The weighted average cost of capital (WACC) of combined firm. (2 marks)

(iii) The value of combined firm. (2 marks)

(iv) The additional equity value created by combining the two companies based on free cash flows. (2 marks)

(Total: 20 marks)

QUESTION THREE

(a) Describe **THREE** types of agency costs that arise from conflict of interest between managers and shareholders. (6 marks)

(b) The following are details of Mali Ltd. for the year ended 31 December 2023:

	Sh."million"
Net income for the year	300
Cash flows from operations	375
Fixed capital investment (FCInv)	309
Net borrowing	9
Dividends paid	9.75
Security repurchase	7.5

Required:

Calculate the free cash flow to equity (FCFE) coverage ratio for the year ended 31 December 2023. (4 marks)

(c) Ngeli Ltd. is considering replacing its machine. The existing machine was bought 3 years ago at a cost of Sh.60 million. The machine is expected to have a useful life of 5 more years with no salvage value at the end. The machine could be disposed of immediately at Sh.36 million. The new machine will cost Sh.80 million with a useful life of 5 years and an expected terminal value of Sh.6 million.

With the introduction of the new machine, sales are expected to increase by Sh.28 million per annum over the next five years.

The contribution margin is expected to be 60% and the corporation tax rate is 30%. The operation of the new machine will also require an immediate investment of Sh.10 million in working capital. Installation cost of the new machine will amount to Sh.8 million. Depreciation is to be provided for on a straight line basis. The company's cost of capital is 10%. Capital gains taxes remain suspended and not applicable.

Required:

(i) The initial investment for the replacement decision. (2 marks)

(ii) Advise the management of Ngeli Ltd. on whether to replace the machine using the net present value (NPV) method. (8 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Highlight **FOUR** factors that could create value in merger and acquisition transactions. (4 marks)

(b) Examine **FOUR** reasons why a company might choose to undertake a corporate restructuring. (8 marks)

(c) Trudy Limited is considering a change of credit policy which will result in an increase in the average collection period from one to two months.

Additional information:

1. The relaxation in credit is expected to produce an increase in sales in each year amounting to 25% of the current sales volume. The following details are available:

Selling price per unit	Sh.12
Variable cost per unit	Sh.10.2
Current annual sales	Sh.2,880,000

2. The required rate of return on investment is 20%.
3. Assume that the 25% increase in sales would result in additional inventories of Sh.120,000 and additional accounts payable of Sh.24,000.

Required:

Using suitable computations, advise the management of the company on whether or not to extend the credit period offered to customers assuming:

(i) All customers take the longer credit of two months. (4 marks)

(ii) Existing customers do not change their habits and the new customers take a full two months credit. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) In relation to the cost of capital, explain the term "weighted average cost of capital". (2 marks)

(b) Outline **FOUR** global trends in green finance. (4 marks)

(c) The board of directors of Athena Ltd. is considering a review of the company's dividend policy. The following information is provided:

1. The company paid Sh.2.5 million as dividend in the previous financial year.
2. The profit after tax for the last financial year was Sh.10 million.
3. The company has not issued any preference shares.
4. The company has been having a constant growth of 14% per annum for the past ten years.
5. The expected profit after tax for the current year is Sh.12 million.
6. The company anticipates investment opportunities worth Sh.4 million in the current financial year.
7. The capital structure of the company consists of 60% equity and 40% debt.

Required:

The optimal total dividends for the current financial year assuming the company wishes to adopt the following:

(i) Constant payout ratio policy. (2 marks)

(ii) Stable predictable dividend policy. (2 marks)

(iii) Pure residual policy. (3 marks)

(iv) Regular plus extra dividend policy. (3 marks)

(d) The following data is available in respect of two companies having same business risk. The capital employed is Sh.200,000. The earnings before interest and taxes (EBIT) is Sh.30,000.

Sources	**Levered company**	**Unlevered company**
10% debt (Sh.)	100,000	-
Equity (Sh.)	100,000	200,000
Cost of equity	20%	12.5%

An investor is holding 15% shares in unlevered company.

Required:
Calculate the increase in annual earnings of investor if he switches his holding from unlevered to levered company. (4 marks)

(Total: 20 marks)

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CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

WEDNESDAY: 24 April 2024. Afternoon Paper. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings. Do NOT write anything on this paper.

QUESTION ONE

(a) Describe **THREE** approaches used to calculate bank's regulatory capital under Basel II. (6 marks)

(b) Distinguish between "sensitivity analysis" and "scenario analysis" as used in capital investment decisions. (2 marks)

(c) Kogan Ltd. plans to buy a new machine. The following details relating to the new machine are provided:

1. The cost of the machine, payable immediately, is Sh.2,400,000 and the machine has an expected useful life of 5 years.
2. Additional investment in working capital of Sh.270,000 will be required at the start of the first year of operation.
3. At the end of 5 years, the machine will be sold for scrap, with the scrap value expected to be Sh.120,000. The machine will not be replaced.
4. Production and sales from the new machine are expected to be 100,000 units per year. Each unit can be sold for Sh.48 per unit and will incur a variable cost of Sh.33 per unit.
5. Incremental fixed costs arising from the operation of the machine will be Sh.480,000 per year.

Additional information:

- The company has an after tax cost of capital of 11%, which it uses as the discount rate, and pays profit after tax one year in arrears at a rate of 30% per annum.
- Ignore tax allowable, depreciation and inflation.

Required:

(i) Calculate the Net Present Value (NPV) of investing in the new machine and advise whether the investment is financially viable. (6 marks)

(ii) Calculate the sensitivity of the investment in the new machine to a change in selling price and to a change in discount rate. (6 marks)

(Total: 20 marks)

QUESTION TWO

(a) The objectives of managers may conflict with the objectives of shareholders, particularly with the objective of maximisation of shareholders wealth. Management remuneration package is one way in which goal congruence between managers and shareholders may be increased. Such packages should motivate managers while supporting the achievement of shareholders wealth maximisation.

Required:

Explain **THREE** factors that should be considered when deciding on a remuneration package intended to encourage directors to act in ways that maximise shareholders wealth. (6 marks)

(b) Islamic mortgage products adhere to Sharia principles by avoiding interest (riba) and ensuring transparency and fairness in the financial transactions. The structures are designed to facilitate home financing in a manner consistent with Islamic principles.

Required:

In light of the above statement, describe **TWO** types of Islamic mortgage products available in relation to Islamic finance. (4 marks)

(c) Kubwa Ltd. wishes to acquire Ndogo Ltd. The directors of Kubwa Ltd. wishes to justify the acquisition on the ground that it will increase the shareholders wealth. The supporting evidence produced by the directors of Kubwa Ltd. is summarised below:

	Kubwa Ltd. Sh."000"	**Ndogo Ltd. Sh."000"**
Operating profit	13,950.00	6,525.00
Interest payable	(4,984.875)	(2,475.00)
Profit before tax	8,965.125	4,050.00
Tax	(3,127.625)	(1,417.50)
Earnings attributable to ordinary shareholders	5,827.50	2,632.50
Earnings per share (pre-acquisition)	Sh.16.65	Sh.32.90625
Market price per share (pre-acquisition)	Sh.249.75	Sh.362.25
Estimated market price per share (post-acquisition)	Sh.270.00	Sh.405.00

Kubwa Ltd. would issue three of its shares for every two shares in Ndogo Ltd. in consideration of the acquisition of Ndogo Ltd.

Required:

(i) Show calculations of how directors of Kubwa Ltd. arrived at their estimates of post acquisition values and if you do not agree with these estimates, determine a revised estimate of the post acquisition values. (6 marks)

(ii) If the acquisition is contested by Ndogo Ltd., determine the maximum price that Kubwa Ltd. would offer without reducing the wealth of its shareholders. (4 marks)

(Total: 20 marks)

QUESTION THREE

(a) In relation to dividend payment chronology, explain the term "ex-dividend date". (2 marks)

(b) Discuss the relative advantages of each of the following share repurchase methods with respect to cost, flexibility and speed:

(i) Open market share repurchases. (2 marks)

(ii) A fixed price tender offer. (2 marks)

(iii) Dutch auction tender offer. (2 marks)

(c) The board of directors of Usawa Ltd. have requested you to prepare a statement showing the working capital requirements for an activity level of 50,000 units of output for the year. The cost structure for the company's product for the above mentioned activity level is given below:

	Cost per unit (Sh.)
Raw materials	300
Direct labour	150
Overheads	250
Total	700
Profit	300
Selling price	1,000

Additional information:

1. Past experience indicates that raw materials are held in stock for an average of 2 months.
2. Work-in-progress is 100% complete with regard to materials and 60% for labour and overheads.
3. Finished goods are in stock on average for 2 months.
4. Credit allowed to suppliers is 1.5 months.
5. Credit allowed to debtors is 3 months.
6. A minimum cash balance of Sh.500,000 is expected to be maintained.

Required:

Prepare a statement of working capital requirements. (12 marks)

(Total:20 marks)

QUESTION FOUR

(a) Summarise **FOUR** uses of cost of capital in a firm. (4 marks)

(b) Describe **THREE** benefits of green bond principles in relation to green finance. (6 marks)

(c) The following extract of the statement of financial position of Kilip Ltd. shows the capital structure of the company as at 31 December 2023:

	Sh."000"
Ordinary share capital (par value Sh.200)	162,000
Reserves	124,500
Shareholders equity	286,500
Long term liability:	
16% debenture stock (par value Sh.500)	118,500
Capital employed	405,000

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

Additional information:

1. The company's earnings before interest and tax (EBIT) average Sh.80 million per annum. These earnings are expected to be maintained in the foreseeable future.
2. The ordinary shares are currently trading at Sh.450 per share.
3. The market price of the debentures is Sh.550 per debenture.
4. The corporate rate of tax is 30%.

Required:

Using the Net Income (NI) approach incorporating taxes, determine the company's:

(i) Cost of equity. (3 marks)

(ii) After tax cost of debt. (3 marks)

(iii) Market weighted average cost of capital (WACC). (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Differentiate between "shareholder's engagement" and "shareholder's activism". (4 marks)

(b) Discuss **THREE** problems encountered by a firm employing a high level of gearing in their operations. (6 marks)

(c) Chigiri Ltd. is considering undertaking a financial restructuring during which the company would repurchase its outstanding ordinary shares using debt. This will raise the company's debt to equity ratio to 1.60. The following information was available for the company:

1. Existing debt to equity ratio is 0.90.
2. The asset beta (ungeared beta of equity) is 0.45.
3. The risk free rate of return is 6%.
4. The return of market portfolio is 13%.
5. The company adopts 50% payout ratio as its dividend policy.
6. The company expects to generate earnings per share (EPS) of Sh.8.
7. Debt finance is considered to be risk free.
8. The corporate tax rate is 30%.

Required:

(i) The firm's levered equity beta before and after the financial restructuring. (3 marks)

(ii) The firm's cost of equity before and after the financial restructuring using the Capital Asset Pricing Model (CAPM). (3 marks)

(iii) The firm's weighted average cost of capital (WACC) before and after financial restructuring. (3 marks)

(iv) Advise the management of Chigiri Ltd. on whether or not to carryout financial restructuring. (1 mark)

(Total: 20 marks)

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CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

WEDNESDAY: 6 December 2023. Afternoon Paper. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings. Do NOT write anything on this paper.

QUESTION ONE

(a) Explain **THREE** principles of Islamic finance. (6 marks)

(b) Alpha Ltd. and Beta Ltd. are companies operating in the same line of business. In the recent past, Alpha Ltd. has experienced very stiff competition from Beta Ltd. such that Alpha Ltd. is considering acquiring Beta Ltd. in order to consolidate its market share. The following financial data is available about the two firms:

	Alpha Ltd.	**Beta Ltd.**
Annual sales (Sh. million)	800	200
Net income (Sh. million)	300	60
Outstanding number of ordinary shares (million)	100	30
Earnings per share (EPS) (Sh.)	3.0	2.0
Market price per share (MPS) (Sh.)	30	15

Both companies are in the 30% income tax bracket.

Required:

(i) Maximum exchange ratio that Alpha Ltd. should agree to if it expects no dilution in its post acquisition earnings per share (EPS). (2 marks)

(ii) Alpha Ltd.'s post acquisition earnings per share if the companies agree on an offer price of Sh.40 per share. (2 marks)

(iii) Alpha Ltd.'s post acquisition earnings per share if for every 500 ordinary shares of Beta Ltd. are exchanged for 10 units of 10% debenture of Sh.500 par value each. (3 marks)

(iv) The combined operating profit (EBIT) at the point of indifference between earnings of the firm under the financing plans in (b) (ii) and (b) (iii) above. (4 marks)

(v) The combined post acquisition earnings per share at the point of indifference between earnings of the firm under the financing plans in (b) (ii) and (b) (iii) above. (3 marks)

(Total: 20 marks)

QUESTION TWO

(a) Describe **TWO** weaknesses of value at risk (VAR) that necessitates the use of conditional value at risk (CVAR). (4 marks)

(b) The following information was extracted from the financial statements of Safi Ltd:

Earnings per share (EPS)	Sh.18
Capitalisation rate	10%
Payout ratio	60%
Internal rate of return	12%

Required:
Calculate the intrinsic value of the share using the following dividend theories:

(i) Gordon's dividend capitalisation model. (3 marks)

(ii) Walter's dividend model. (3 marks)

(c) Ufundi Ltd. is considering raising additional Sh.50 million to finance an expansion programme. The firm's capital structure, which is considered to be optimal, is given as follows:

	%
Equity capital	60
10% debt capital (Sh.100 par value)	30
12% preference share capital (Sh.60 par value)	10
	100

Additional information:
1. The firm expects to raise Sh.10 million from internal sources.
2. The firm pays a constant ordinary dividend of Sh.4 per share in each year. This is expected to remain so in the foreseeable future.
3. The firm will issue new ordinary shares at Sh.45 per share and will incur a floatation cost of Sh.5 per share.
4. New 10% irredeemable debentures will be issued at Sh.120 each. Floatation cost of 5% of market price will be incurred.
5. New 12% preference shares will be issued at Sh.80 each. The par value of each share is Sh.60. Floatation cost of Sh.6 per share will be incurred.
6. Corporate tax rate applicable is 30%.

Required:
(i) The cost of ordinary shares. (2 marks)

(ii) The cost of 10% debentures. (2 marks)

(iii) The cost of 12% preference shares. (2 marks)

(iv) The weighted marginal cost of capital (WMCC) of the firm. (4 marks)

(Total: 20 marks)

QUESTION THREE

(a) Examine **THREE** real world influences on a firm's dividend payout policy. (6 marks)

(b) Omo Ltd. is considering expanding its business operations into manufacturing digital devices. Omo Ltd. anticipates an initial investment of Sh.1.3 million and, at best, an operational life of 3 years for the project. Omo Ltd.'s management team has considered several probable outcomes over the life of the project, which it has labelled as either "successes" or "failures". Accordingly, Omo Ltd. anticipates that in the first year of operations, there is a 65% chance of "success" with after tax cash flow of Sh.800,000 or a 35% chance of "failure" with Sh.1,000 cash flow after tax.

If the project "succeeds" in the first year, Omo Ltd. expects three probable outcomes regarding net cash flows after tax in the second year. These outcomes are Sh.2.2 million, Sh.1.8 million or Sh.1.5 million with probabilities of 0.3, 0.5 and 0.2 respectively. In the third and final year of operation, the net cash flow after tax are expected to be either Sh.35,000 more or Sh.55,000 less than they were in year 2, with an equal chance of occurrence.

If, on the other hand, the project "fails" in year 1, there is a 60% chance that it will produce net cash flow after tax of only Sh.1,500 in year 2 and 3. There is also a 40% chance that it will really fail and Omo Ltd. will earn nothing in year 2, and will get out of this line of business, terminating the project and resulting in no net cash flows after tax in year 3.

The opportunity cost of capital for Omo Ltd. is 10%.

Required:
(i) Construct a decision tree representing the possible outcomes. (6 marks)

(ii) Determine the joint probability of each possible sequence of events. (2 marks)

(iii) Calculate the project's expected net present value (ENPV). (6 marks)

(Total: 20 marks)

QUESTION FOUR

(a) A retail trader requires Sh.800,000 per annum to meet his operational needs. Any surplus cash held is deposited in a bank account which yields interest income at a rate of 10% per annum.

Every time the trader withdraws the cash from the bank to meet his operational needs, he is charged Sh.100 per transaction.

Required:
Using Baumol model of cash management, determine:

(i) Optimal cash balance. (4 marks)

(ii) Annual transaction cost. (2 marks)

(iii) Annual opportunity cost. (2 marks)

(iv) How frequently should the trader withdraw cash from the bank per annum? (2 marks)

(b) The following are the financial statements of Kanga Ltd. for the year ended 31 December 2022:

Income statement for the year ended 31 December 2022:

	Sh."000"
Revenue	12,000
Cost of sales	(7,000)
Gross profit	5,000
Operating expenses	(2,000)
Operating profit	3,000
Finance cost	(2,200)
Earnings before tax	800
Income tax expenses	(240)
Profit for the year	560

Statement of financial position as at 31 December 2022:

	Sh."000"	**Sh."000"**
Non-current assets:		
Tangible assets		21,000
Intangible assets		7,000
		28,000
Current assets:		
Inventory	8,000	
Trade receivables	6,000	
Bank balance	800	14,800
Total assets		42,800
Equity and liabilities:		
Equity:		
100,000 preference shares (Sh.20 par value)		2,000
500,000 ordinary shares (Sh.4 par value)		2,000
Share premium		4,000
Retained earnings		2,800
		10,800
Non-current liabilities:		
Mortgage (20 years)	8,000	
8% debentures	12,000	20,000
Total equity and reserves		30,800
Current liabilities:		
Trade payables	2,000	
Notes payable	10,000	12,000
Total liabilities and equity		42,800

Additional information:

1. The Z-score is to be calculated using the following formula:

   Z-score = $1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999X_5$

   Where:

   X_1 = Working capital/Total assets
   X_2 = Retained earnings/Total assets
   X_3 = Earnings before interest and taxes/Total assets
   X_4 = Market value of equity/Book value of debt
   X_5 = Sales/Total assets
2. The current market price per share is Sh.6.

Required:

(i) Calculate the Z-score of the company and interpret its meaning. (8 marks)

(ii) Evaluate two applications of the Altman Z-score in your country. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Explain **THREE** causes of conflict between shareholders and management. (6 marks)

(b) Describe **THREE** stages of green lending which are supported by technological advancement. (6 marks)

(c) Keya Mine Company (KMC) is currently a family owned company with no debt. The company is considering going public by selling some of its shares in the company at the securities exchange.

Investment bankers have informed the firm that the total market value of the company is Sh.10 million if no debt is employed. In addition to selling shares, the family wishes to consider issuing debt that for computational purposes would be perpetual. The debt then would be used to purchase shares, so the size of the company would stay the same.

Additional information:

1. Based on various valuation studies, the tax advantage of debt is estimated at 30% of the amount borrowed when only corporation tax rate is considered.
2. Corporation tax rate is 30%.
3. The marginal tax rate on shares income is 5%.
4. The marginal tax rate on debt income is 15%.
5. The investment banker has estimated the following present values of bankruptcy costs associated with various levels of debt:

Amount of debt (Sh.)	Present value of bankruptcy cost (Sh.)
1,000,000	0
2,000,000	50,000
3,000,000	100,000
4,000,000	200,000
5,000,000	400,000
6,000,000	700,000
7,000,000	1,100,000
8,000,000	1,600,000

Required:

Determine the optimal debt level that the company should choose. (8 marks)

(Total: 20 marks)

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CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

WEDNESDAY: 23 August 2023. Afternoon Paper. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings. Do NOT write anything on this paper.

QUESTION ONE

(a) In relation to agency theory, summarise **FIVE** ways of resolving conflicts between the head office and the branches. (5 marks)

(b) Jabali Ltd. and Jeza Ltd. are two companies in the manufacturing industry. The companies have the same business risks and are almost identical in all aspects in terms of capital structures and total market values. The companies capital structures are summarised below:

Jabali Ltd.	**Sh."000"**
Ordinary shares (Sh.25 par value)	20,000
Share premium account	45,000
Profit and loss account	36,500
Shareholders funds	101,500

Jabali Ltd. shares are trading at Sh.70 each.

Jeza Ltd.	**Sh."000"**
Ordinary shares (Sh.50 par value)	25,000
Share premium account	8,000
Profit and loss account	44,000
Shareholder's fund	77,000
8% debentures (newly issued)	25,000
	102,000

Jeza Ltd.'s ordinary shares are trading at Sh.85 each and debentures at Sh.50 each.

Additional information:

1. Annual earnings before interest and tax for each company is Sh.30 million.
2. Corporate tax rate applicable is 30%.

Required:

(i) If you owned 10% of the ordinary shares of Jeza Ltd. and you agreed with the arguments of Modigliani and Miller, explain **FOUR** actions you would take to improve your financial position. (4 marks)

(ii) Compute the amount of arbitrage profit. Personal taxes may be ignored and the assumptions made by Modigliani and Miller may be used. (7 marks)

(iii) If Jabali Ltd. was to borrow Sh.20 million, compute the effect this would have on the company's cost of capital according to Modigliani and Miller. (4 marks)

(Total: 20 marks)

QUESTION TWO

(a) Explain the following dividend theories:

(i) Bird-in hand theory. (2 marks)

(ii) Information signaling theory. (2 marks)

(iii) Clientele effect theory. (2 marks)

(b) Describe **THREE** types of mergers based on industry life cycles. (6 marks)

(c) Sparrow Ltd. produces and sells a key component branded "Omega". The component is sold at Sh.2,000 per unit. The company's sales are on credit with customers selected for credit on the basis of a scoring process. With its existing credit standards, Sparrow Ltd. expects to sell 12,000 units over the coming year. Variable costs are Sh.1,200 per unit. The firm's fixed cost is Sh.2.4 million per year.

Sparrow Ltd. is contemplating a relaxation of credit standards that will have the following effects:
1. A 5% increase in the units sold.
2. An increase in the average collection period from 30 days to 45 days.
3. An increase in bad debt expense from 1% to 2% of sales.

The selling price is expected to remain unchanged.
The company's required return on investment is 12%.

Required:
Advise Sparrow Ltd. on whether it should relax its credit standards. Assume a 365-day year. (8 marks)
(Total: 20 marks)

QUESTION THREE
(a) Highlight **FOUR** advantages of using the net present value (NPV) method over the internal rate of return (IRR) method as an investment appraisal technique. (4 marks)

(b) Explain **THREE** theoretical and methodological approaches used in developing green financial framework. (6 marks)

(c) The capital structure of Upendo Ltd. is as follows:

	Sh."000"
Ordinary share capital (Sh.120 per share)	120,000
12% preference share capital (Sh.20 per share)	60,000
16% long term loan	18,000
18% debentures	16,000
	214,000

Additional information:
1. Ordinary shares are currently quoted at Sh.100 at the securities exchange.
2. Ordinary shares have a dividend cover of 4 times and earnings per share (EPS) of Sh.8.
3. The 18% debentures have a par value of Sh.1,000 and market price of Sh.1,200. The debentures have maturity period of 5 years.
4. The 12% preference shares have a market price of Sh.25.
5. The corporation tax rate is 30%.

Required:
(i) The company's growth rate in equity. (2 marks)

(ii) The cost of ordinary shares. (1 mark)

(iii) The cost of preference shares. (1 mark)

(iv) The cost of long term loan. (1 mark)

(v) The cost of 18% debentures. (2 marks)

(vi) The company's market weighted average cost of capital (WACC). (3 marks)
(Total: 20 marks)

QUESTION FOUR
(a) Highlight **FOUR** differences between "Treasury bills" and "Treasury bonds". (4 marks)

(b) Discuss **THREE** principles of Basel III accord as used in banking regulations. (6 marks)

(c) Alpham Ltd. wishes to acquire Omega Ltd. The directors of Alpham Ltd. wish to justify the acquisition on the grounds that it will increase the shareholders wealth. The supporting evidence produced by the directors of Alpham Ltd. is summarised as follows:

	Alpham Ltd. Sh."000"	Omega Ltd. Sh."000"
Operating profit	62,000	29,000
Interest payable	(22,155)	(11,000)
Profit before tax	39,845	18,000
Tax	(13,945)	(6,300)
Earnings attributable to ordinary shareholders	25,900	11,700

Additional information:

1. The earnings per share (EPS) pre-acquisition for Alpham Ltd. and Omega Ltd. were Sh.14.80 and Sh.29.25 respectively.
2. The market price per share (MPS) pre-acquisition for Alpham Ltd. and Omega Ltd. were Sh.222 and Sh.322 respectively.
3. Alpham Ltd. would issue three (3) of its ordinary shares for every two (2) ordinary shares of Omega Ltd. in consideration of the acquisition of Omega Ltd.

Required:

(i) The post-acquisition market price per share of Alpham Ltd. (4 marks)

(ii) The post-acquisition market price per share (MPS) of Omega Ltd. (2 marks)

(iii) Assuming the acquisition is contested by Omega Ltd., determine the maximum price that Alpham Ltd. should offer without reducing the wealth of its shareholders. (2 marks)

(iv) Determine the contested offer price by Omega Ltd. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Examine **TWO** international financial institutions that are at the forefront in providing guidance and regulations to Islamic financial institutions. (4 marks)

(b) Figo Ltd. operates a production machine that has the following maintenance costs and resale values over its three year useful life. The purchase price of the machine is Sh.50 million.

	Year 1 Sh."000"	Year 2 Sh."000"	Year 3 Sh."000"
Maintenance costs	15,000	22,000	25,000
Resale value (end of year)	37,500	35,000	30,000

The company's cost of capital is 10%.

Required:

Advise the management of Figo Ltd. on how frequent the machine should be replaced. (6 marks)

(c) The current earnings per share (EPS) of Uvuno Ltd. is Sh.6. The company has an asset beta (unlevered equity beta) of 0.65 and retention ratio of 0.6. The risk free rate of return is 10%. The expected return of the market portfolio is 18%.

The management of Uvuno Ltd. intends to undertake a financial restructuring which will result in debt-equity ratio change from 0.25 to 0.20. The firm has in issue 15 million ordinary shares and equity capital of Sh.360 million. Corporation tax rate applicable is 30%.

Required:

(i) The share price before financial restructuring. (4 marks)

(ii) The share price after financial restructuring. (4 marks)

(iii) Advise the management of Uvuno Ltd. on whether to carry out the financial restructuring. (2 marks)

(Total: 20 marks)

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CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

WEDNESDAY: 26 April 2023. Afternoon Paper. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings. Do NOT write anything on this paper.

QUESTION ONE

(a) Describe **FOUR** financial measures of managerial performance as used in corporate finance. (4 marks)

(b) Explain **THREE** causes of conflicts between shareholders and auditors in relation to agency theory. (6 marks)

(c) Nyota Ltd. belong to a risk class for which the appropriate capitalisation rate is 12%. It currently has 300,000 ordinary shares selling at Sh.100 each. The firm is contemplating the declaration of dividend of Sh.6 per share at the end of the current financial year. The company expects to have a net income of Sh.3,000,000 and a proposal for making new investment of Sh.6,000,000.

Required:

(i) The price of an ordinary share at the end of the year assuming dividend is not paid. (1 mark)

(ii) The price of a company's share at the end of the year assuming dividend is paid. (1 mark)

(iii) The number of new ordinary shares to be issued assuming dividend is paid. (3 marks)

(iv) The number of new ordinary shares to be issued assuming dividend is not paid. (3 marks)

(v) Calculate the value of the firm in (c) (iii) and (c) (iv) above. (2 marks)

(Total: 20 marks)

QUESTION TWO

(a) Explain **FOUR** factors that could affect a firm's capital structure decision. (4 marks)

(b) Propose **THREE** financial strategies that a country could adopt in order to stimulate green finance. (6 marks)

(c) The following financial information has been extracted from the statement of financial position of Karne Ltd. for the year ended 31 December 2022:

	Sh."million"	**Sh."million"**
Non-current assets		50
Current assets:		
Cash and cash equivalents	4	
Other current assets	16	20
Total assets		70
Equity and reserves:		
Ordinary shares	15	
Reserves	29	44
Non-current liabilities:		
6% preference shares	6	
8% loan notes	8	
Bank loan	5	19
Current liabilities		7
Total equity and liabilities		70

Additional information:

1. The ordinary shares have a nominal value of Sh.1 per share and a current ex-dividend market price of Sh.6.10 per share. A dividend of Sh.0.90 per share has just been paid.
2. The 6% preference shares have a nominal value of Sh.0.75 per share and an ex-dividend market price of Sh.0.64 per share.
3. The 8% loan notes have a nominal value of Sh.100 per loan note and a market price of Sh.103.50 per loan note. Annual interest has just been paid and the loan are redeemable in five years' time at a 10% premium to nominal value. The bank loan has a variable interest rate.
4. The risk free rate of return is 3.5% per annum and the equity risk premium is 6.8% per annum.
5. The company's equity beta is 1.25.
6. The corporation tax rate is 30%.

Required:

(i) The cost of ordinary shares using the Capital Asset Pricing Model (CAPM). (2 marks)

(ii) The cost of preference shares. (2 marks)

(iii) The cost of loan notes. (2 marks)

(iv) The cost of bank loan. (1 mark)

(v) Market weighted average cost of capital (MWACC) of the company. (3 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain **TWO** causes of unethical behavior in corporate finance. (4 marks)

(b) Discuss **THREE** reasons why net present value (NPV) is regarded superior to internal rate of return (IRR) as an investment appraisal technique. (6 marks)

(c) Rovaz Ltd. maintains a minimum cash balance of Sh.2,000,000. The standard deviation of the daily cash balance is Sh.1,000,000. The annual interest rate is 14%. The transaction cost of buying and selling of marketable securities is Sh.150 per transaction.

Assume that a year has 360 days.

Required:

Using the Miller-Or cash management model, determine:

(i) The return point (target cash level). (3 marks)

(ii) The average cash balance. (3 marks)

(iii) The upper cash limit. (2 marks)

(iv) The spread. (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Outline **FOUR** advantages of using bank overdraft as a source of finance. (4 marks)

(b) Describe **THREE** religion's features that make Islamic banking and finance systems distinct from other conventional banking. (6 marks)

(c) Timothy Barasa has been appointed as a financial analyst of Tena Ltd. Timothy is considering investing in one of the two mutually exclusive projects; Project A or Project B. Project A will cost Sh.20 million and generate annual cash flow of Sh.7.5 million for 5 years, while project B will cost Sh.35 million and will generate Sh.8 million for 10 years. The cost of capital is 10% which is applicable to all projects.

Required:

(i) The annual equivalent value (AEV) for project A and project B. (4 marks)

(ii) The net present value (NPV) using replacement chain method. (4 marks)

(iii) Advise Timothy Barasa on the project to undertake based on your results in (c) (i) and (c) (ii) above. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) The following statement of financial position and statement of profit or loss relate to Softex Ltd. for the year ended 31 December 2022:

Softex Ltd.
Statement of financial position as at 31 December 2022

Assets	**Sh."000"**	**Liabilities and equity**	**Sh."000"**
Cash	80,000	Accounts payable	1,000,000
Accounts receivables	600,000	Notes payable	200,000
Inventories	800,000	**Total current liabilities**	1,200,000
Total current assets	1,480,000	Mortgage	800,000
Land and buildings	200,000	Debentures	1,200,000
Plant (net book value)	1,000,000	**Total long-term liabilities**	2,000,000
Equipment (net book value)	1,600,000	Preference share capital (20,000 shares)	200,000
Total fixed assets	2,800,000	Ordinary share capital (100,000 shares)	200,000
		Paid in capital	400,000
		Retained earnings	280,000
		Total shareholder's equity	1,080,000
Total assets	4,280,000	Total liabilities and equity	4,280,000

Softex Ltd.
Statement of profit or loss for the year ended 31 December 2022

	Sh."000"
Sales	1,200,000
Cost of goods sold	(700,000)
Selling and administration expenses	(200,000)
Earnings before interest and taxes (EBIT)	300,000
Interest	(220,000)
Earnings before tax (EBT)	80,000
Taxes at 30%	(24,000)
Net income	56,000

The company's ordinary shares are currently priced at Sh.8 per share.

Required:

(i) Using the Springate model, assess the financial health of the company. (6 marks)

(ii) Other than the Springate model, evaluate **TWO** other models of predicting corporate failure. (4 marks)

Note: The Springate model takes the following form;

$$Z = 1.03A + 3.07B + 0.66C + 0.4D$$

Where;

$$A = \frac{\text{Net working capital}}{\text{Total assets}}$$

$$B = \frac{\text{Operating profit}}{\text{Total assets}}$$

$$C = \frac{\text{Net profit before taxes}}{\text{Current liabilities}}$$

$$D = \frac{\text{Sales}}{\text{Total assets}}$$

(b) Ndovu Ltd. and Twiga Ltd. are negotiating a friendly acquisition of Twiga Ltd. by Ndovu Ltd. The management teams of both companies have informally agreed upon a transaction value of about Sh.12 per share of Twiga Ltd. stock but are presently negotiating alternative forms of payment. Three alternative offers have been presented by Ndovu Ltd.:

1. **Cash offer:** Ndovu Ltd. will pay Sh.12 per share of Twiga Ltd. stock.
2. **Stock offer:** Ndovu Ltd. will give Twiga Ltd. shareholders 0.80 shares of Ndovu Ltd.'s stock per share of Twiga Ltd. stock.
3. **Mixed offer:** Ndovu Ltd. will pay Sh.6 plus 0.40 shares of Ndovu Ltd. stock per share of Twiga Ltd.

The merger of the two companies will result in economies of scale with a net present value (NPV) of Sh.90 million.

The following data has been prepared:

	Ndovu Ltd. **Sh.**	**Twiga Ltd.** **Sh.**
Pre-merger share price	15	10
Number of shares outstanding (millions)	75	30
Pre-merger market value (millions)	Sh.1,125	Sh.300

Required:
Determine the total premium paid to the shareholders of Twiga Ltd. under:

(i) Cash offer. (2 marks)

(ii) Stock offer. (3 marks)

(iii) Mixed offer. (4 marks)

(iv) Advise the best offer to the Twiga Ltd. management team. (1 mark)

(Total: 20 marks)

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CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

WEDNESDAY: 7 December 2022. Afternoon Paper. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings. Do NOT write anything on this paper.

QUESTION ONE

(a) Explain **THREE** ways in which goals of a firm may overlap. (6 marks)

(b) Summarise **FOUR** hindrances to international standardisation of Islamic Finance. (4 marks)

(c) Hekima Ltd. has a capital structure consisting of Sh.250 million in 12% debentures and Sh.150 million in ordinary shares of Sh.10 par value. The company distributes all its net earnings as dividends. The financial analyst of Hekima Ltd. intends to raise an additional Sh.50 million to finance an expansion programme and is considering three financing options.

Option I: Issue an 11% debenture stock.
Option II: Issue 13% cumulative preference shares.
Option III: Issue additional ordinary shares of Sh.10 par value.

The corporation tax rate is 30%.

Required:
Calculate the earnings before interest and tax (EBIT) and the earnings per share (EPS) at the point of indifference between the following financing options:

(i) Option I and option III. (5 marks)

(ii) Option II and option III. (5 marks)

(Total: 20 marks)

QUESTION TWO

(a) "Provision for depreciation is an internally generated source of finance to a firm".

By giving **TWO** reasons, justify the above statement. (4 marks)

(b) Explain **THREE** challenges facing green finance in your country. (6 marks)

(c) Adopt Ltd. has a target capital structure of 60% equity and 40% debt. The schedule of financing costs for the firm is shown below:

Amount of new debt Sh. "million"	After tax cost of debt (%)	Amount of new equity Sh. "million"	Cost of equity (%)
0 to 99	4.2	0 to199	6.5
100 to 199	4.6	200 to 399	8.0
200 to 299	5.0	400 to 599	9.5

Required:

(i) Determine the breakpoints for both equity and debt component. (2 marks)

(ii) Calculate the marginal cost of capital (MCC) at each break points computed in (c) (i) above. (4 marks)

(iii) Marginal cost of capital schedule for (c) (ii) above. (4 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain the differences between the following approaches to post merger integration:

(i) Absorption approach. (2 marks)

(ii) Preservation approach. (2 marks)

(iii) Symbiosis approach. (2 marks)

(b) Daycare enterprises is considering undertaking a special project requiring an initial outlay of Sh.90,000,000. The project would have a two year life after which there will be no expected salvage or terminal value. The possible incremental after tax cash flows and associated probabilities of occurrence are as follows:

Year 1		Year 2		
Initial probability P(1)	**Net cash flow Sh."000"**	**Conditional probability P(2/1)**	**Net cash flow Sh."000"**	**Branch**
0.30		0.30	20,000	1
	60,000	0.50	30,000	2
		0.20	40,000	3
		1.00		
		0.30	40,000	4
0.40	70,000	0.40	50,000	5
		0.30	60,000	6
		1.00		
		0.20	60,000	7
0.30	80,000	0.50	70,000	8
1.00		0.30	80,000	9
		1.00		

The company's required rate of return for this investment is 8%.

Required:

(i) Calculate the expected net present value (ENPV) for the project. (8 marks)

(ii) Suppose that the possibility of abandonment exist and that the abandonment value of the project at the end of the first year is Sh.45,000,000 after taxes.

Advise the management of Daycare Enterprises whether abandonment is the right choice. (6 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Highlight **FOUR** objectives of an effective inventory management system. (4 marks)

(b) The following financial statement data relates to Fastline Ltd.:

	Sh."000"
Credit sales	25,000
Cost of goods sold	20,000
Accounts receivable	2,500
Inventory - Beginning balance	2,000
Ending balance	2,300
Accounts payable	1,700

Number of days in a year is 365.

Required:

The net operating cycle of Fastline Ltd. (6 marks)

(c) Upendo Ltd. is considering acquiring Maridadi Ltd., a firm operating in the same industry so as to consolidate its market share.

Given below are financial information relating to Maridadi Ltd. for the next five years:

	Year				
	1	**2**	**3**	**4**	**5**
	Sh. "million"	**Sh. "million"**	**Sh. "million"**	**Sh. "million"**	**Sh. "million"**
Net sales	502.50	630	755	870	955
Cost of sales	367.50	441	528.50	609	668.50
Selling and administrative expenses	50	60	65	75	80
Interest expenses	20	25	35	45	55

Additional information:

1. Maridadi Ltd. will retain Sh.20 million for internal expansion each year.
2. The cost of equity capital is 24%.
3. After the fifth year, the cash flows available to Upendo Ltd. from Maridadi Ltd. are expected to grow by 8% per annum to perpetuity.
4. Corporation tax rate applicable is 30%.
5. The number of ordinary share in issue at Maridadi Ltd. is 10 million shares.

Required:

(i) The dividend per share (DPS) payable by Maridadi Ltd. in each year if the firm adopts a residual dividend policy. (6 marks)

(ii) The maximum price payable by Upendo Ltd. to acquire a share of Maridadi Ltd. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Cite **FOUR** reasons why firms find it difficult to achieve expected synergy as a result of mergers and acquisitions. (4 marks)

(b) Orange Ltd. and Rainbow Ltd. are companies operating in the same line of business. In the past few years, Orange Ltd. has experienced stiff competition from Rainbow Ltd. to an extent that Orange Limited is now contemplating acquiring Rainbow Ltd. to consolidate its market share. If Orange Ltd. acquires Rainbow Ltd., the expected results of Rainbow Ltd. for the next three years will be as follows:

	Year after acquisition		
	Year 1	**Year 2**	**Year 3**
	Sh."000"	**Sh."000"**	**Sh."000"**
Net sales	100,000	140,000	160,000
Cash costs/expenses	60,000	80,000	90,000
Capital allowance	10,000	15,000	20,000
Interest charges	5,000	5,000	5,000
Cash to replace assets and finance growth	12,500	15,000	17,500

Additional information:

1. From year 4 onwards, it is expected that the annual cash flows from Rainbow Ltd. will increase by 6% each year into perpetuity.

2. Tax is payable at the rate of 30% and this tax is paid in the same year the profits to which it relates are earned.

3. If Orange Ltd. acquires Rainbow Ltd., its overall cost of capital (WACC) will be 12.4%.

Required:

The offer price that Orange Ltd. should offer to Rainbow Ltd. using discounted cash flow method. (6 marks)

(c) Zedo Ltd.'s existing debt to equity ratio is 0.5 and its asset beta (unlevered equity beta) is 0.4.

The firm decides to undergo a financial reconstruction during which it would repurchase its outstanding shares using borrowed debt. This will effectively increase the firm's debt to equity ratio to 0.8.

Additional information:

1. The risk free rate of return is 10%.
2. The return of market portfolio is 14%.
3. The corporation tax rate applicable is 30%.
4. The current earnings per share (EPS) is Sh.4 and the company adopts 50% payout ratio as its dividend policy.

Required:

(i) The firm's equity beta before and after the financial reconstruction. (3 marks)

(ii) The firm's cost of equity before and after financial reconstruction using capital asset pricing model (CAPM). (3 marks)

(iii) The share price of the firm before and after financial reconstruction. (3 marks)

(iv) Advise the management of the company on whether they should carry out financial reconstruction based on your answer in (c) (iii) above. (1 mark)

(Total: 20 marks)

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CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

TUESDAY: 5 April 2022. Afternoon paper. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings. Do NOT write anything on this paper.

QUESTION ONE

(a) In relation to Islamic Finance, explain four ethical issues that need to be adhered to in marketing products and services. (8 marks)

(b) Cynthia Nyamboke is interested in determining the fair value of Gucha Ltd. by using comparable transaction analysis and has selected three companies that were acquired in the past two years. Details on the acquisition prices and relevant pricing variable are shown below:

Valuation variables	Acquired company A	Acquired company B	Acquired company C
	Sh.	Sh.	Sh.
Acquisition share price	35.00	16.50	87.00
Earnings per share (EPS)	2.12	0.89	4.37
Cash flow per share	3.06	1.98	7.95
Book value per share (BVPS)	9.62	4.90	21.62
Market price per share (MPS)	15.26	7.61	32.62

Gucha Ltd. has the following prices for the pricing variables and the weight for the pricing variable is shown below:

Valuation variables	Gucha Ltd.	Weight
	Sh.	
Earnings per share (EPS)	2.62	20%
Cash flow per share	4.33	40%
Book value per share (BVPS)	12.65	20%
Market price per share (MPS)	22.98	20%

Required:

Using relative valuation method, determine the fair takeover price for Gucha Ltd. (6 marks)

(c) The financial analyst of Usawa Ltd. wishes to find the companies optimal capital structure. The cost of debt varies according to the level of gearing of the company as follows:

Percentage of debt (%)	Pretax cost of debt
10	6.5%
20	7.1%
30	7.8%
40	8.5%
50	10%
60	12%

Additional information:

1. The company's ungeared beta is 0.85.
2. The risk free rate is 6% per annum.
3. The market risk premium is 8% per annum.
4. Corporation tax rate is 30%.

Required:

Estimate the company's optimal weighted average cost of capital (WACC). (6 marks)

(Total: 20 marks)

QUESTION TWO

(a) Discuss four factors to be considered in formulating the dividend policy of a listed company. (8 marks)

(b) James Mutua, a financial analyst at AA Asset Managers is evaluating a project with the following characteristics:

1. Fixed capital investment of Sh.2 million.
2. The project has an expected useful life of six years.
3. The initial investment in net working capital is Sh.200,000.
   At the end of each year, net working capital must be increased so that the cumulative investment in net working capital is one-sixth of the next year projected sales.
4. The fixed capital is depreciated 30% in year 1, 35% in year 2, 20% in year 3, 10% in year 4, 5% in year 5 and 0% in year 6.
5. Sales are Sh.1,200,000 in year 1. They grow at a 25% annual rate for the next two years and then grow at a 10% annual rate for the last three years.
6. Fixed cash operating expenses are Sh.150,000 for year 1 – 3 and Sh.130,000 for year 4 – 6.
7. Variable cash operating expenses are 40% of sales in year 1, 39% of sales in year 2 and 38% in year 3 – 6.
8. The corporate tax rate is 30%.
9. Fixed capital investments will be sold for Sh.150,000 when the project is completed and recapture its cumulative investment in net working capital. Income taxes will be paid on any gains.
10. The project required rate of return is 12%.
11. If taxable income on the project is negative in any year, the loss will offset gains elsewhere in the corporation, resulting in a tax savings.

Required:

Determine whether the project is profitable using:

(i) The net present value (NPV). (6 marks)

(ii) The internal rate of return (IRR). (6 marks)

(Total: 20 marks)

QUESTION THREE

(a) (i) Distinguish between "Green bonds" and "Green finance". (4 marks)

(ii) Describe two types of green bonds. (4 marks)

(b) In the year 2021, Standard Furniture Limited (SFL) had total sales of Sh.6 million and after tax profit of Sh.690,000. SFL's profit margins have been declining over the last two-three years. The management thinks that this is due to about 10% of total sales to customers who are not financially strong. The behaviour of cost in percentage is provided below:

	Fixed Sh.	Variable Sh.	Total Sh.
Cost of goods sold	-	82.00	82.00
Administrative expenses	2.50	4.00	6.50
Selling costs	2.80	5.70	8.50
Bad-debt losses	-	0.05	0.05
Collection costs	-	0.02	0.02
	5.30	91.77	97.07

The management believes that bad debt losses and collection costs are entirely attributable to the margin accounts. The average collection period of marginal accounts was 60 days against 45 days of all other accounts and 80% of sales to margin accounts are on credit. There are 360 days in a year. The firm's required rate of return is 25% on marginal accounts. The corporate tax rate is 30%.

Required:

Analyse the impact of tightening the credit policy by discontinuing sales to these customers. (8 marks)

(c) Analyse four applications of cost of capital to a firm. (4 marks)

(Total: 20 marks)

QUESTION FOUR

(a) (i) Explain the term "unbundling" as used in organisational restructuring. (2 marks)

(ii) Examine two main forms of unbundling. (4 marks)

(b) Explain four advantages of retained earnings as a source of finance. (4 marks)

(c) Sungura Ltd. and Swara Ltd. operate in the same industry. The two firms are similar in all aspects except for their capital structures. The following additional information is available:

1. Sungura Ltd. is financed using Sh.100 million worth of ordinary shares.
2. Swara Ltd. is financed using Sh.50 million in ordinary shares and Sh.50 million in 8% debentures.
3. The annual earnings before interest and tax are Sh.10 million for both firms. These earnings are expected to remain constant indefinitely.
4. The cost of equity of Sungura Ltd. is 10%.
5. The corporate tax rate is 30%.

Required:

Using the Modigliani and Miller (MM) model, determine the following:

(i) The market value of Sungura Ltd. and Swara Ltd. (4 marks)

(ii) The weighted average cost of capital (WACC) of Sungura Ltd. and Swara Ltd. (6 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Assess three remuneration incentives that lead to goal congruence in the agency problem. (6 marks)

(b) Mwaweza Ltd. is considering raising an additional Sh.10 million to finance an expansion programme. The firm's existing capital structure which is considered to be optional is given below:

	Sh."000"
Ordinary share capital	50,000
Reserves	25,000
16% debentures (Sh.1,000)	31,250
14% preference share capital (Sh.20 each)	18,750
	125,000

Additional information:

1. The firm expects to generate Sh.2 million from retained earnings for this programme.
2. Additional new ordinary shares will be issued at Sh.45 each subject to a floatation cost of Sh.5 per share. The most recent dividend paid by the company is Sh.2 per share. The firm's dividends are expected to grow at the rate of 5% per annum in perpetuity.
3. The company will issue new 16% debentures at a price of Sh.1,100 and floatation of Sh.5 per debenture.
4. New 14% preference shares will be issued at Sh.30 and floatation cost of Sh.20.
5. Corporation tax rate applicable is 30%.

Required:

(i) The cost of retained earnings. (2 marks)

(ii) The cost of new ordinary share capital. (2 marks)

(iii) The cost of new 16% debentures. (2 marks)

(iv) The cost of new preference shares. (2 marks)

(v) The company's weighted marginal cost of capital (WMCC). (4 marks)

(vi) The number of new ordinary shares to be issued to raise the desired external equity. (2 marks)

(Total: 20 marks)

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Present Value Interest factor of 1 Received at the End of *n* Periods at r Percent:

$PVIF_{r,n} = 1 / (1+r)^n = (1+r)^{-n}$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.6944	0.6504	0.6400	0.5917
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.5787	0.5245	0.5120	0.4552
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.4823	0.4230	0.4096	0.3501
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4019	0.3411	0.3277	0.2693
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3349	0.2751	0.2621	0.2072
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.2791	0.2218	0.2097	0.1594
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2326	0.1789	0.1678	0.1226
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.1938	0.1443	0.1342	0.0943
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.1615	0.1164	0.1074	0.0725
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1346	0.0938	0.0859	0.0558
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1122	0.0757	0.0687	0.0429
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1452	0.0935	0.0610	0.0550	0.0330
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.0779	0.0492	0.0440	0.0254
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0649	0.0397	0.0352	0.0195
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0541	0.0320	0.0281	0.0150
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0451	0.0258	0.0225	0.0116
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0376	0.0208	0.0180	0.0089
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0313	0.0168	0.0144	0.0068
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0261	0.0135	0.0115	0.0053
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0217	0.0109	0.0092	0.0040
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0181	0.0088	0.0074	0.0031
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0151	0.0071	0.0059	0.0024
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431	0.0349	0.0284	0.0126	0.0057	0.0047	0.0018
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0105	0.0046	0.0038	0.0014
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0256	0.0196	0.0151	0.0116	0.0042	0.0016	0.0012	*
35	0.7059	0.5000	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0259	0.0189	0.0139	0.0102	0.0075	0.0055	0.0017	0.0005	*	*
36	0.6989	0.4902	0.3450	0.2437	0.1727	0.1227	0.0875	0.0626	0.0449	0.0323	0.0234	0.0169	0.0123	0.0089	0.0065	0.0048	0.0014	*	*	*
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0154	0.0107	0.0075	0.0053	0.0037	0.0026	0.0007	*	*	*
50	0.6080	0.3715	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0054	0.0035	0.0022	0.0014	0.0009	0.0006	*	*	*	*

Present Value Interest factors for Annuity of 1 Discounted at r Percent for *n* Periods:

$PVIFA_{r,n} = [1 - 1/(1+r)^n] / r$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5278	1.4568	1.4400	1.3609
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2459	2.1065	1.9813	1.9520	1.8161
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.5887	2.4043	2.3616	2.1662
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	2.9906	2.7454	2.6893	2.4356
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.9975	3.8887	3.7845	3.6847	3.3255	3.0205	2.9514	2.6427
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0388	3.6046	3.2423	3.1611	2.8021
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.7988	4.6389	4.4873	4.3436	3.8372	3.4212	3.3289	2.9247
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.0310	3.5655	3.4631	3.0190
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.1925	3.6819	3.5705	3.0915
11	10.368	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.3271	3.7757	3.6564	3.1473
12	11.255	10.575	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	5.1971	4.4392	3.8514	3.7251	3.1903
13	12.134	11.348	10.635	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	4.5327	3.9124	3.7801	3.2233
14	13.004	12.106	11.296	10.563	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	4.6106	3.9616	3.8241	3.2487
15	13.865	12.849	11.938	11.118	10.380	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	4.6755	4.0013	3.8593	3.2682
16	14.718	13.578	12.561	11.652	10.838	10.106	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	4.7296	4.0333	3.8874	3.2832
17	15.562	14.292	13.166	12.166	11.274	10.477	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	4.7746	4.0591	3.9099	3.2948
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	4.8122	4.0799	3.9279	3.3037
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	4.8435	4.0967	3.9424	3.3105
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	4.8696	4.1103	3.9539	3.3158
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	4.8913	4.1212	3.9631	3.3198
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	4.9094	4.1300	3.9705	3.3230
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	4.9245	4.1371	3.9764	3.3254
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.7066	8.9847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	4.9371	4.1428	3.9811	3.3272
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	4.9476	4.1474	3.9849	3.3286
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.4269	8.6938	8.0552	7.4957	7.0027	6.5660	6.1772	4.9789	4.1601	3.9950	3.3321
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.6442	8.8552	8.1755	7.5856	7.0700	6.6166	6.2153	4.9915	4.1644	3.9984	3.3330
36	30.108	25.489	21.832	18.908	16.547	14.621	13.035	11.717	10.612	9.6765	8.8786	8.1924	7.5979	7.0790	6.6231	6.2201	4.9929	4.1649	3.9987	3.3331
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.7791	8.9511	8.2438	7.6344	7.1050	6.6418	6.2335	4.9966	4.1659	3.9995	3.3332
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.9148	9.0417	8.3045	7.6752	7.1327	6.6605	6.2463	4.9995	4.1666	3.9999	3.3333

CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

WEDNESDAY: 3 August 2022. Afternoon paper. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings. Do NOT write anything on this paper.

QUESTION ONE

(a) Examine four dividend payout policies. (4 marks)

(b) Explain three common reasons for restructuring a business. (6 marks)

(c) Peacock Ltd. is considering undertaking financial reconstruction during which it would repurchase its outstanding ordinary shares using debt. This will raise its debt to equity ratio to 1.6.
The following information was available for the company:

1. Existing debt to equity ratio is 1.2.
2. The asset beta (ungeared beta of equity) is 0.40.
3. The risk free rate of return is 6%.
4. The return of market portfolio is 12%.
5. The firm adopts 60% payout ratio as its dividend policy.
6. The firm expects to generate earnings per share (EPS) of Sh.8.
7. The corporate tax rate is 30%.

Required:

(i) The weighted average cost of capital (WACC) before financial reconstruction. (4 marks)

(ii) The weighted average cost of capital (WACC) after financial reconstruction. (4 marks)

(iii) Advise Peacock Ltd. management on the appropriate action to take. (2 marks)

(Total: 20 marks)

QUESTION TWO

(a) Explain four types of risk in the banking industry. (4 marks)

(b) Describe three financial intermediaries and institutions driving green finance trading. (6 marks)

(c) Vibe Ltd. has earnings before interest and taxes (EBIT) of Sh.2 million and a 30% tax rate. The required rate of return on equity in the absence of leverage is 14%.

Required:
In the absence of personal taxes, determine the value of the company in a Modigliani and Miller world:

(i) With no debt. (2 marks)

(ii) With Sh.6 million in debt. (2 marks)

(d) With reference to (c) above, assume that personal as well as corporate taxes now exist. The marginal personal tax rate on common stock income is 25% and the marginal personal tax rate on debt income is 30%.

Required:
Determine the value of the firm:

(i) With no debt. (3 marks)

(ii) With Sh.6 million in debt. (3 marks)

(Total: 20 marks)

QUESTION THREE

(a) Citing justification in each case, describe four activities that are prohibited in Islamic Finance. (4 marks)

(b) Tarakilishi Ltd. deals with computer accessories. A computer component sells for Sh.400 a piece and has a variable cost of Sh.200 per piece. The firm has fixed operating costs of Sh.400,000 and fixed financing costs of Sh.600,000.

Further analysis of the firm reveals that if the firm sales increases by 10%, the firm's earnings before interest and taxes (EBIT) increases by 15% and if the firm's EBIT increases by 10%, the firm earnings per share (EPS) increases by 12%.

Required:
Calculate the following measures of leverage for the firm:

(i) Breakeven quantity of sales in units. (2 marks)

(ii) Operating breakeven quantity of sales in units. (2 marks)

(iii) Degree of operating leverage (DOL). (2 marks)

(iv) Degree of financial leverage (DFL). (2 marks)

(v) Degree of total leverage (DTL). (2 marks)

(c) Kazi Ltd. estimates its total cash requirements as Sh.20 million for next year. The company's opportunity cost of funds is 15% per annum. The company will have to incur Sh.150 per transaction when it converts its short term securities to cash.

Required:
Using the Baumol's cash management model, determine the following:

(i) The optimum cash balance. (2 marks)

(ii) The total annual cost of the demand for the optimum cash balance. (2 marks)

(iii) The number of deposits that will be made during the year. (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Nono Ltd. is considering acquiring Konda Ltd. Given below are selected financial data for the two companies:

	Nono Ltd.	**Konda Ltd.**
Annual sales (Sh."million")	1500	180
Net income (Sh."million")	120	15
Ordinary shares outstanding ("million")	20	5
Market price per share (Sh.)	45	25

Both companies are in the 30% tax bracket.

Required:

(i) The non-diluting maximum exchange ratio. (2 marks)

(ii) The post acquisition earnings per share (EPS) assuming the firm settles on an offer price of Sh.25 per share. (3 marks)

(iii) Calculate Nono's Ltd.'s post acquisition earning per share (EPS) if every 100 shares of Konda Ltd. are exchanged for 2 units of 15% debentures with par value of Sh.1,000 per unit. (3 marks)

(iv) Considering the results in (a) (ii) and (a) (iii) above, state the financing option that you would recommend? (2 marks)

(b) Usawa Ltd. is considering whether it is necessary to purchase equipment to increase its production and sales volumes. The equipment costs Sh.600,000 and has a useful life of three years after which it can be sold as scrap for Sh.96,000. For each of the three years of usage, the equipment is expected to increase both the sales revenue and operating costs by Sh.720,000 and Sh.468,000 respectively. The company's cost of capital is 12%.

Required:
Compute the percentage change required in each of the following factors for the project to be rejected;

(i) Initial cost of the equipment. (4 marks)

(ii) Scrap value of the equipment. (3 marks)

(iii) Sales revenue. (3 marks)

(Total: 20 marks)

QUESTION FIVE

(a) With respect to agency theory, explain three ways of resolving agency conflict between shareholders and managers. (6 marks)

(b) Discuss three reasons that may drive mergers and acquisitions to fail. (6 marks)

(c) Magenta Ltd. intends to borrow Sh.30 million for share repurchase. The Chief Financial Officer (CFO) of the company has compiled the following information about the company.

- Share price at the time of buy-back = Sh.50.
- Shares outstanding before buy-back =20,000,000.
- Earning per share (EPS) before buy-back = Sh.5.00
- Earnings yield = 10%
- After tax cost of borrowing = 8%
- Planned buy-back = 600,000 shares.

Required:

(i) The earnings per share (EPS) after share repurchase. (3 marks)

(ii) Comment on your results in (c) (i) above. (1 mark)

(iii) The earnings per share (EPS) assuming the after tax cost of borrowing increases by 7%. (3 marks)

(iv) Comment on your results in (c) (iii) above. (1 mark)

(Total: 20 marks)

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CIFA INTERMEDIATE LEVEL

CORPORATE FINANCE

THURSDAY: 16 December 2021. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) Discuss three forms of executive incentive schemes that a company could utilise to attract and retain high quality managers. (6 marks)

(b) Explain four advantages of preference shares as a source of finance for a business enterprise. (4 marks)

(c) Highlight four factors to be considered when formulating the dividend policy of a listed company. (4 marks)

(d) The management of Tausi Ltd. has determined that it will require Sh.25,000,000 in cash for the coming year. The cost of converting marketable securities to cash is Sh.500 per transaction. Interest on marketable securities is 10% per annum.

Required:
Using the Baumol cash management model, determine:

(i) The optimal cash conversion size. (2 marks)

(ii) Average cash balance. (1 mark)

(iii) Number of times the conversions should be made. (1 mark)

(iv) Total cost of managing the optimal cash balance. (2 marks)

(Total: 20 marks)

QUESTION TWO

(a) Highlight three differences between an "operating lease" and " a "finance lease". (6 marks)

(b) Elgon Ltd. is a small company that is finding it difficult to raise funds to acquire a new machine costing Sh.750,000. Elgon Ltd. would ideally like a four year loan for the full purchase price at an after tax interest rate of 6% per annum. The machine would have an expected useful life of four years. At the end of this period, the machine would have a residual value of Sh.50,000. Tax allowable servicing costs for the machine would be Sh.23,000 per year. Tax allowable depreciation on the full purchase price would be available on a 25% straight line basis.

A leasing company has offered a contract whereby Elgon Ltd. could have use of the machine for four years in exchange for an annual lease rental payment of Sh.200,000, payable at the start of each year. The contract states that the leasing company would undertake maintenance of the machine at no additional cost to Elgon Ltd. At the end of the four years, the leasing company would recover the machine from Elgon Ltd.

Elgon Ltd. pays corporation tax at the rate of 30% one year in arrears.

Required:
For the new machine, calculate:

(i) The present value of the cost of borrowing to buy. (4 marks)

(ii) The present value of the cost of leasing. (4 marks)

(iii) Advise the management of Elgon Ltd. on best financing option based on your results in (b) (i) and (b) (ii) above. (2 marks)

(c) An analyst has gathered the following information about the return of Sabaki Limited's share and the market for the last six years:

	Return (%)	
Year	**Sabaki Limited (S)**	**Market (M)**
2015	18	15
2016	9	7
2017	20	16
2018	–10	–13
2019	5	4
2020	12	7

Required:
Calculate the beta coefficient for Sabaki Limited's share. (4 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain the following terms as used in mergers and acquisition:

(i) Bootstrapping earnings. (2 marks)

(ii) White knight defense. (2 marks)

(iii) White squire defense. (2 marks)

(b) There are six firms in a given industry, each with an equal market share. Two of the firms decide to merge.

Required:
Using Herfindahl-Hirschman index, determine whether the merger will be challenged by the authorities. (4 marks)

(c) JB Ltd. has 78 million shares outstanding while AZ Ltd. has 223 million shares outstanding. JB Ltd.'s shares were trading at a price of Sh.20 per share pre-announcement while AZ Ltd.'s shares were trading at Sh.43 per share. An analyst estimates the total present value of cost savings due to the merger will be Sh.200 million. AZ Ltd.'s board accepts a 1:2 share exchange offer (1 share of AZ Ltd. per 2 shares of JB Ltd.)

Required:
The takeover premium paid to shareholders of JB Ltd. (6 marks)

(d) X Ltd.'s total working capital requirements over a period of 5 days is as shown below:

Day of the week	**Total working capital requirements (Sh.)**
Monday	100,000
Tuesday	80,000
Wednesday	120,000
Thursday	110,000
Friday	130,000

Required:
(i) Average daily permanent working capital. (2 marks)

(ii) Average daily seasonal working capital. (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Describe six commonly used contracts in Islamic Finance. (6 marks)

(b) Hapco Limited is considering two mutually exclusive projects. The initial costs of both projects is Sh.5,000,000 and each has an expected life of five years. Under three possible states of economy, their annual cash flows and associated probabilities are as follows:

Economic state	Probability	Cash flows	
		Project A Sh. "000"	Project B Sh. "000"
Good	0.30	6,000	5,000
Normal	0.40	4,000	4,000
Bad	0.30	2,000	3,000

The discount rate is 7%.

Required:

(i) The expected net present value (NPV) for each project. (2 marks)

(ii) The standard deviation for each project. (2 marks)

(iii) Advise the management on the project to undertake based on your results in (b) (i) and (ii) above. (2 marks)

(c) Zidisha Ltd. intends to raise additional capital for a new product line.

The following information is provided:

1. The firm will issue 200,000 ordinary shares (Sh.10 par value) at Sh.16 with a floatation cost per share of Sh.1.
2. 75,000, 12% preference shares (Sh.20 par value) at Sh.18 will be issued. This would lead to incurring of Sh.150,000 as floatation costs.
3. 50,000, 18% debentures (Sh.100 par value) at Sh.80 with no floatation cost.
4. Raise Sh.5 million from 18% loan incurring Sh.200,000 as legal and processing fees.
5. The company paid 28% ordinary dividends which is expected to grow at a rate of 4% per annum in the following year.
6. Corporate tax rate is at 30% per annum.

Required:

(i) Determine total capital raised net of floatation costs incurred. (2 marks)

(ii) Compute the weighted marginal cost of capital (WMCC). (6 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Propose two forms of divestments in the context of corporate growth and restructuring. (4 marks)

(b) Fineto Limited is considering going private through a leveraged buyout by management. Management presently owns 21% of the 5 million shares outstanding. The current market price per share is Sh.20 and it is felt that 40% premium over the present price will be necessary to entice public shareholders to tender their shares in a cash offer. Management intends to keep their shares and to obtain a senior debt equal to 80% of the funds necessary to consummate the buyout. The remaining 20% will come from junior subordinated debt. Terms on the senior debt are 2% above the prime rate, with principal reduction of 20% of the initial loan at the end of each of the next 5 years. The junior subordinated debentures bear a 13% interest for the next 5 years and must be retired at the end of year 6. Management estimates that earnings before interest and taxes (EBIT) will be Sh.25 million per year.

Ignore taxation.

Required:

Evaluate whether the leveraged buyout is feasible if the prime rate is expected to average 10% over the next 5 years. (8 marks)

(c) Adept Ltd. requires Sh.500,000 for construction of a new plant.

The following three financial plans are feasible:

1. The company may issue 50,000 ordinary shares at Sh.10 per share.
2. The company may issue 25,000 ordinary shares at Sh.10 per share and 2,500 debentures of Sh.100 denominations bearing 8% rate of interest.
3. The company may issue 25,000 ordinary shares at Sh.10 per share and 2,500, 8% preference shares at Sh.100 per share.

The tax rate is 30% per annum.

Required:

(i) Calculate the earnings per share using earnings before interest and taxes (EBIT) of Sh.10,000, Sh.20,000, Sh.40,000, Sh.60,000 and Sh.100,000 respectively under each of the three financial plans above. (3 marks)

(ii) Determine which alternative you would recommend based on your results in (c) (i) above. (2 marks)

(iii) Determine the indifference points. (3 marks)

(Total: 20 marks)

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Present Value Interest factor of 1 Received at the End of *n* Periods at r Percent:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.6944	0.6504	0.6400	0.5917
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.5787	0.5245	0.5120	0.4552
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.4823	0.4230	0.4096	0.3501
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4019	0.3411	0.3277	0.2693
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3349	0.2751	0.2621	0.2072
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.2791	0.2218	0.2097	0.1594
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2326	0.1789	0.1678	0.1226
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.1938	0.1443	0.1342	0.0943
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.1615	0.1164	0.1074	0.0725
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1346	0.0938	0.0859	0.0558
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1122	0.0757	0.0687	0.0429
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1452	0.0935	0.0610	0.0550	0.0330
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.0779	0.0492	0.0440	0.0254
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0649	0.0397	0.0352	0.0195
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0541	0.0320	0.0281	0.0150
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0451	0.0258	0.0225	0.0116
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0376	0.0208	0.0180	0.0089
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0313	0.0168	0.0144	0.0068
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0261	0.0135	0.0115	0.0053
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0217	0.0109	0.0092	0.0040
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0181	0.0088	0.0074	0.0031
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0151	0.0071	0.0059	0.0024
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431	0.0349	0.0284	0.0126	0.0057	0.0047	0.0018
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0105	0.0046	0.0038	0.0014
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0256	0.0196	0.0151	0.0116	0.0042	0.0016	0.0012	
35	0.7059	0.5000	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0259	0.0189	0.0139	0.0102	0.0075	0.0055	0.0017	0.0005		
36	0.6989	0.4902	0.3450	0.2437	0.1727	0.1227	0.0875	0.0626	0.0449	0.0323	0.0234	0.0169	0.0123	0.0089	0.0065	0.0048	0.0014			
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0154	0.0107	0.0075	0.0053	0.0037	0.0026	0.0007			
50	0.6080	0.3715	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0054	0.0035	0.0022	0.0014	0.0009	0.0006	-	-	-	-

Present Value Interest factors for Annuity of 1 Discounted at r Percent for *n* Periods:

$$PVIFA_{r,n} = [1 - 1/(1+r)^n]/r$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5278	1.4568	1.4400	1.3609
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2459	2.1065	1.9813	1.9520	1.8161
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.5887	2.4043	2.3616	2.1662
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	2.9906	2.7454	2.6893	2.4356
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.9975	3.8887	3.7845	3.6847	3.3255	3.0205	2.9514	2.6427
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0386	3.6046	3.2423	3.1611	2.8021
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.7988	4.6389	4.4873	4.3436	3.8372	3.4212	3.3289	2.9247
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.0310	3.5655	3.4631	3.0190
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.1925	3.6819	3.5705	3.0915
11	10.368	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.3271	3.7757	3.6564	3.1473
12	11.255	10.575	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	5.1971	4.4392	3.8514	3.7251	3.1903
13	12.134	11.348	10.635	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	4.5327	3.9124	3.7801	3.2233
14	13.004	12.106	11.296	10.563	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	4.6106	3.9616	3.8241	3.2487
15	13.865	12.849	11.938	11.118	10.380	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	4.6755	4.0013	3.8593	3.2682
16	14.718	13.578	12.561	11.652	10.838	10.106	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	4.7296	4.0333	3.8874	3.2832
17	15.562	14.292	13.166	12.166	11.274	10.477	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	4.7746	4.0591	3.9099	3.2948
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	4.8122	4.0799	3.9279	3.3037
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	4.8435	4.0967	3.9424	3.3105
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	4.8696	4.1103	3.9539	3.3158
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	4.8913	4.1212	3.9631	3.3198
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	4.9094	4.1300	3.9705	3.3230
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	4.9245	4.1371	3.9764	3.3254
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.7066	8.9847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	4.9371	4.1428	3.9811	3.3272
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	4.9476	4.1474	3.9849	3.3286
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.4269	8.6938	8.0552	7.4957	7.0027	6.5660	6.1772	4.9789	4.1601	3.9950	3.3321
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.6442	8.8552	8.1755	7.5856	7.0700	6.6166	6.2153	4.9915	4.1644	3.9984	3.3330
36	30.108	25.489	21.832	18.908	16.547	14.621	13.035	11.717	10.612	9.6765	8.8786	8.1924	7.5979	7.0790	6.6231	6.2201	4.9929	4.1649	3.9987	3.3331
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.7791	8.9511	8.2438	7.6344	7.1050	6.6418	6.2335	4.9966	4.1659	3.9995	3.3332
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.9148	9.0417	8.3045	7.6752	7.1327	6.6605	6.2463	4.9995	4.1666	3.9999	3.3333

KASNEB

CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 23 November 2016. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) "Mergers and acquisitions have become an essential tool for corporate growth in today's global market place. However, there are instances where firms may seek to acquire their competitors to eliminate competition in the market and obtain market power. To prevent such anticompetitive mergers, most competition authorities have come up with some form of merger review mechanism". Willard Mwemba, Commission Manager for mergers and acquisitions, Common Markets for Eastern and Southern Africa Competition Commission, July 2015.

Required:
In the context of the above statement, discuss the following post-offer takeover defence mechanisms:

(i) Litigation. (1 mark)

(ii) Greenmail. (1 mark)

(iii) Leveraged recapitalisation. (1 mark)

(iv) Crown jewel. (1 mark)

(v) White knight. (1 mark)

(vi) White square. (1 mark)

(b) Explain four mechanims that could be used to motivate managers to act in the best interest of shareholders in a corporate firm. (4 marks)

(c) Fabtex Ltd. is an expanding clothing retailer which is all equity financed by ordinary share capital of Sh.10 million with a par value of Sh.0.50. The company's annual results have just been announced at the end of October 2016 as follows:

1. Pre-tax profits were Sh.4.6 million. Earnings are expected to grow at a rate of 5% per annum in the coming year and for the foreseeable future.
2. Another company, Toddler Garments Ltd., a children's clothing group, has unissued share capital of Sh.33 million with a par value of Sh.1.00. The company's pre-tax profits for the year ended 31 October 2016 were Sh.5.2 million. There is no growth forecast for the current year due to a recent reorganisation and rationalisation program, but subsequently, constant growth in earnings of approximately 6% per annum is predicted.
3. Fabtex Ltd. has approached the shareholders of Toddler Garments Ltd. with a bid of two new shares in Fabtex Ltd. for every three shares of Toddler Garments Ltd. There is a cash alternative of Sh.1.35 per share.
4. Following the announcement of the bid, the market price of Fabtex Ltd. shares reduced while the market price of shares in Toddler Garments Ltd. increased. Statistics for Fabtex Ltd. and two other listed companies in the same industry immediately prior to the bid announcement are as shown below:

2015 Market price per share		Company	Dividend yield (%)	Price to earnings (P/E) ratio
High	Low			
Sh.	Sh.			
2.25	1.85	Fabtex Ltd.	3.4	15
1.45	1.15	Toddler Garments Ltd.	3.6	13
1.87	1.22	HR Garments Ltd.	6.0	12
2.30	1.59	SZ Garments Ltd.	2.4	17

5. Both Fabtex Ltd. and Toddler Garments Ltd. pay corporation tax at the rate of 30%.
6. Fabtex Ltd. cost of capital is 12% while the cost of capital for Toddler Garments Ltd. is 11%.

Assume you are a corporate financial analyst with a major fund manager. You have funds invested in both Fabtex Ltd. and Toddler Garments Ltd.

Required:

(i) Assess whether the proposed share for the offer is likely to be beneficial to the shareholders of Fabtex Ltd. and Toddler Garments Ltd. (9 marks)

(ii) Recommend an investment strategy based on your calculations in (c) (i) above. (1 mark)

(Total: 20 marks)

QUESTION TWO

(a) Differentiate between the "trade off theory" and the "pecking order theory" as used in the analysis of capital structure of a firm. (4 marks)

(b) (i) Explain the term "cash sweep" in relation to leveraged buyouts (LBO). (2 marks)

(ii) A leveraged buyout transaction is measured at Sh.1,000 million and has the following characteristics:

1. Exit occurs in five years at a projected multiple of 1.80 of the company's initial cost.
2. It is financed with 60% debt and 40% equity.
3. The Sh.400 million equity investment is composed of:
   - Sh.310 million in preference shares held by the private equity firm.
   - Sh.80 million in equity held by the private equity firm.
   - Sh.10 million held by management equity participation.
4. Preference shares are guaranteed a 14% compound annual return payable at exit.
5. The equity of the private equity firm is promised 90% of the company's residual value at exit after creditors and preference shares have been paid.
6. Management equity receives the other 10% residual value.
7. By exit, the company will have paid off Sh.350 million of the initial Sh.600 million in debt using operating cash flow.

Required:

The payoff multiple of the equity claimants. (6 marks)

(c) The following is an extract of a statement of financial position of ABC Limited for the year ended 31 December 2015:

	Sh."million"		**Sh."million"**
Cash	150	Accounts payable	600
Accounts receivable	800	Short-term debt	250
Inventories	700	Total current liabilities	850
Total current assets	1,650	Bonds	800
Non-current assets	1,850	Deferred tax	350
Total assets	3,500	Shareholders equity	1,500
		Total equity and liabilities	3,500

Additional information:

1. The short term debt relates to a Sh.250 million bank loan with an interest rate of 6% per annum.
2. The bonds have a face value of Sh.800 million and are straight bonds maturing in 2025 with a coupon rate of 7.8% paid annually at the end of the year. At the end of the year 2015, the yield-to-maturity was 8.1% with a bond price of Sh.98.00 per Sh.100 par value.
3. ABC Limited has 50 million ordinary shares issued and outstanding. At the end of year 2015, the share price was Sh.40.
4. The risk free rate is 5%, the stock market risk premium is 6%, and the beta for ABC Limited shares is 1.20.
5. An investment bank proposes a deal in which ABC Limited would reduce its weighted average cost of capital (WACC) by issuing bonds worth Sh.300 million and using the proceeds to repurchase shares, thereby increasing ABC's debt ratio and allowing it to take advantage of increased tax benefits.
6. The corporate tax rate is 30%.

Required:

The change in the weighted average cost of capital (WACC) after the change in capital structure as proposed.

(8 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain how the following financial transactions could be used in the management of trade receivables:

(i) Invoice discounting. (2 marks)

(ii) Factoring. (2 marks)

(b) Citing three reasons, summarise the importance of working capital management in corporate finance. (3 marks)

(c) Tidco Ltd. is considering extension of credit to a new group of customers. It is expected that the annual sales to this new customer group will be Sh.750,000. This group will on average pay their bills after 60 days. The bad debt losses are expected to be 9% of sales. The credit and allocation department expenses will increase by Sh.45,000 if credit is extended to this group. The company pays corporate tax at the rate of 30%, and its variable costs are 80% of sales. The risk to this group of customers requires a discount rate of 16%.

Required:
Determine whether Tidco Ltd. should extend credit to this group of customers. (4 marks)

(d) The data provided below relates to three firms' dividend payouts over the last six years. None of the companies has issued or cancelled any shares over the period.

	(Sh. "million")					
	2010	**2011**	**2012**	**2013**	**2014**	**2015**
Company A						
Shares issued:1.200 million						
Profit after tax	600	636	580	600	640	660
Dividends declared	240	252	232	240	256	264
Company B						
Shares issued: 2,000 million						
Profit after tax	1,200	1,300	1,580	1,800	1,240	1,460
Dividends declared	120	132	145	160	176	194
Company C						
Shares issued: 3,500 million						
Profit after tax	2,200	1,400	2,100	1,950	2,200	2,560
Dividends declared	200	0	100	0	200	560

Required:

(i) Using appropriate calculations, describe the dividend policy that each of the above three companies appears to be following. (6 marks)

(ii) Justify each of the policies identified in (d) (i) above to the shareholders of each of the respective companies. (3 marks)

(Total: 20 marks)

QUESTION FOUR

(a) (i) Explain four reasons for the Islamic prohibition of interest (riba). (4 marks)

(ii) Describe three challenges faced by Islamic banking. (3 marks)

(b) Indept Ltd. has a debt/equity ratio of 20%. The equity beta is 1.30. The risk-free rate is 10% and a return of 16% is expected from the market portfolio. The corporate tax rate is 30%. Indept Ltd. proposes to undertake a project requiring an initial outlay of Sh.10 million, financed partly by equity and partly by debt. The project, a perpetuity, is thought to be able to support the borrowing of Sh.3 million at an annual interest rate of 12%, thus imposing interest charges of Sh.360,000. It is expected to generate pre-tax cash flows of Sh.2.3 million per year.

Required:
Using the adjusted present value (APV) approach, advise the management on whether this project is worthwhile. (6 marks)

(c) Kenyamatt Ltd.'s financial statements extract for the year ended 31 December 2015 is presented below:

Kenyamatt Ltd.
Financial statements extract for the year ended 31 December 2015

	Sh."million"
Total revenue	590
Operating variable costs	210
Operating fixed costs	175
Operating income (EBIT)	205
Interest expense	82
Taxes	49
Net income	74
Earnings per share (EPS)	Sh.7.4
Dividends per share (DPS)	Sh.0.18
	Sh."million"
Total assets	975
Long-term debt	820
Total shareholders equity	97
Number of outstanding shares	10 million

Simon Nderitu, a corporate financial analyst is interested in analysing the extent to which the company is utilising leverage.

Required:
Compute the following leverage measures for Kenyamatt Ltd. for the year ended 31 December 2015:

(i) Degree of operating leverage. (2 marks)

(ii) Degree of financial leverage. (2 marks)

(iii) Degree of total leverage. (3 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Describe the following terms in relation to corporate restructuring:

(i) Equity curve-out. (1 mark)

(ii) Spin-off. (1 mark)

(iii) Split-off. (1 mark)

(iv) Divestiture. (1 mark)

(v) Liquidation. (1 mark)

(b) Madeni Ltd. is considering various levels of debt. At present, it has no debt and has a total market value of Sh.15 million. By undertaking financial leverage, it believes that it can achieve a net corporate and personal tax advantage of 20% of the market value of the debt. However, the company is concerned with bankruptcy and agency costs as well as with lenders increasing their required interest rate if the firm borrows too much. The company believes that it can borrow up to Sh.5 million without incurring any of these additional costs. However, each additional Sh.5 million increment in borrowing is expected to result in these three costs being incurred. Moreover, these costs are expected to increase at an increasing rate with financial leverage.

The following table illustrates the present value cost of bankruptcy, agency cost and interest cost under various levels of debt:

Debt level Sh."million"	5	10	15	20	25	30
Present value cost of bankruptcy, agency and increased interest rates (Sh."million")	0	0.6	1.2	2	3.2	5

Required:
The optimal amount of debt for the company. (4 marks)

(c) Microcam Ltd. operates a number of high definition cameras and is evaluating whether it is optimal to operate new cameras for two, three or four years before replacing them. The managers have estimated the investment outlay, annual after tax operating expenses and after tax salvage cash flows for each of the service lives. The cost of funds is 10%.

Service life (years)	Investment Sh.	Year 1 Sh.	Year 2 Sh.	Year 3 Sh.	Year 4 Sh.	Salvage Sh.
2	(40,000)	(12,000)	(15.000)			20,000
3	(40.000)	(12,000)	(15.000)	(20.000)		17,000
4	(40.000)	(12.000)	(15.000)	(20.000)	(25.000)	12,000

Required:
Compute the optimal service life for Microcam Ltd.'s high definition cameras. (6 marks)

(d) Kirimatt Ltd. has a debt to equity ratio of 40% and 60% respectively. The required rate of return on debt and equity is 7% and 12.5% respectively. The corporate tax rate is 30%. The firm is considering investing in a new project with perpetual stream of pre-tax cash flows of Sh.11.3 million per annum. The project has the same risk as the average project of the firm. The initial investment is Sh.125 million which is financed by 20% debt.

Required:

(i) Using adjusted weighted average cost of capital (AWACC) approach, compute the net present value (NPV) of the project. (4 marks)

(ii) Advise the management on the viability of the project. (1 mark)

(Total: 20 marks)

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Present Value of 1 Received at the End of n Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	.1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	.0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	.1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	.0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	.0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001		
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001				
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001						

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,n} = \sum_{i=1}^{n} \frac{1}{(1+r)^i} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	5.0916	4.6755	4.0013	3.4834	3.0764
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
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
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
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
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
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
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
40	32.8347	27.3555	23.1148	19.7928	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
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
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250

KASNEB

CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 25 May 2016. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) Summarise three disadvantages of common models used for predicting corporate failure. (3 marks)

(b) (i) Propose three reasons why a company could participate in a share repurchase exercise. (3 marks)

(ii) Describe three methods that could be used by companies to repurchase shares. (3 marks)

(c) EAPL Limited is considering raising money for repurchasing 200,000 shares. The company's outstanding shares before the share repurchase exercise are 6.2 million and the respective earnings per share (EPS) is Sh.8.00. The market price per share (MPS) are the time of repurchase is Sh.100.00. The prevailing after-tax cost of borrowing is 12%.

Required:
The earnings per share (EPS) after the share repurchase. (4 marks)

(d) The dividend policy of Clyton Ltd. can be represented by a gradual adjustment to a target dividend payout ratio. The earnings per share (EPS) and dividend per share (DPS) of the company for the previous financial year were Sh.9.00 and Sh.1.80 respectively. It is estimated that the EPS will be Sh.12.00 for the current year. Clyton Ltd. has a 20% target dividend payout ratio and uses a 10-year period to adjust its dividend.

Required:
The expected dividend per share for the current year. (3 marks)

(e) An investment analyst gathered the following information about a private company and its publicly traded competitor:

Comparable companies	Tax rate (%)	Debit/equity	Equity beta
Private company	27	1.00	N/A
Public company	30	0.80	1.86

Note: N/A means "not applicable".

Required:
The estimated equity beta for the private company using the pure-play method. (4 marks)
(Total: 20 marks)

QUESTION TWO

(a) Highlight five benefits that could accrue to a corporation that continuously measures the performance of its managers. (5 marks)

(b) Beyond the pure comparison of the capital structures, it is equally or even more imperative to identify and understand the country-specific factors that explain the cross-country differences.

Required:
In relation to the above statement, examine three factors that might be used to explain most capital structure differences in an international comparison. (3 marks)

(c) Citam Investment Group (CIG) owns a significant shareholding in Millennium Bank Ltd. (MBL). MBL contemplates increasing the proportion of debt in their company's capital structure. Raichura Ranchu, an investment and financial analyst who consults for CIG, is concerned that any changes in MBL's capital structure would negatively affect the value of CIG's investment.

Raichura has gathered the following information regarding MBL to evaluate the potential impact of such a capital structure change on CIG's investment:

Current selected financial information for MBL	
Yield to maturity on debt	16%
Market value of debt	Sh.200 million
Number of shares	20 million
Current market price per share (MPS)	Sh.60.00
Cost of capital (if the firm is all equity financed)	11.2%
Marginal tax rate	30%

It is expected that an increase in MBL's financial leverage would lead to an increase in its cost of debt and equity. According to previous statistics of firms in MBL's industry, Raichura estimates the cost of debt and the cost of equity at various debt-to-total capital ratios to be as shown in the table below:

Estimates of MBL's before-tax costs of debt and equity		
Debt-to-total capital ratio (%)	**Cost of debt (%)**	**Cost of equity**
21	8.9	13.6
32	9.5	14.1
43	10.4	15.3
54	11.5	17.2

Required:

(i) The current capital structure of MBL. (3 marks)

(ii) The current after-tax cost of debt and cost of equity for MBL. (4 marks)

(iii) Debt-to-total capital ratio that would minimise MBL's weighted average cost of capital (WACC). (5 marks)

(Total: 20 marks)

QUESTION THREE

(a) Interpret the following terms as used in Islamic finance:

(i) Murabaha. (1 mark)

(ii) Ijara. (1 mark)

(iii) Muduraba. (1 mark)

(iv) Musharaka. (1 mark)

(v) Sukuk. (1 mark)

(b) Outline three objectives of short-term borrowing strategy. (3 marks)

(c) Kagio Traders Ltd. (KTL) is a small company with high prospects of growth. In the last one year, KTL has experienced problems in developing a sound short-term borrowing strategy. In relation to this, KTL has recently consulted Samson Mwashumba, an investment and financial analyst to help the company in developing the most cost effective form of short-term borrowing strategy. Mwashumba's initial task is to evaluate three possible means of borrowing Sh.2 million for one month as indicated below:

1. Drawing down on a line of credit with an interest rate of 14.4% per annum and a 0.5% per annum commitment fee on the full amount with no compensating balances.
2. A bankers acceptance at an interest rate of 14.2% per annum, an all inclusive rate.
3. A commercial paper at an interest rate of 13.8% per annum with a dealer's commission of 0.25% and a backup line cost of a 0.33% per annum, both of which would be assessed on the Sh.2 million commercial paper issued.

Required:

The form of borrowing that would result in the lowest cost of credit. (12 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Evaluate three disadvantages of using comparable company analysis approach of valuing firms undertaking mergers and acquisitions. (3 marks)

(b) Kimbo Ltd. is planning to acquire Kasuku Ltd. As a corporate financial analyst, you have been tasked by Kimbo Ltd. to estimate a fair acquisition price for Kasuku Ltd.

Additional information:

1. Kasuku Ltd. has 20,000,000 outstanding shares and no debt. It is estimated that the post-merger free cash flows (FCF) from Kasuku Ltd. would be Sh.30 million, Sh.34 million, Sh.40 million and Sh.46 million at the end of year 1, year 2, year 3 and year 4 respectively.
2. After year 4, it is projected that the free cash flow would grow at a constant rate of 7.5% annually. The appropriate discount rate is estimated to be 12%. It is also estimated that after four years, Kasuku Ltd. would be worth 25 times its free cash flow at the end of year 4.
3. Three companies, Joma Ltd., Elianto Ltd. and Golden Ltd. are comparable to Kasuku Ltd. Three recent takeover transactions similar to the takeover of Kasuku Ltd. have been identified, namely Peto Ltd., Diso Ltd. and Kero Ltd. and it is further believed that price-to-earnings, price-to-sales, and price-to-book value price multiples of these companies could be used to estimate the value of Kasuku Ltd.

The relevant data for the three comparable companies together with that of Kasuku Ltd. are as follows:

Valuation variables	Joma Ltd. Sh.	Elianto Ltd. Sh.	Golden Ltd. Sh.	Kasuku Ltd. Sh.
Market price per share	45.00	24.00	52.00	32.00
Earnings per share	4.02	2.26	3.04	2.86
Sales per share	21.32	15.44	19.30	18.36
Book value per share	16.32	8.36	12.50	11.02

In addition, the relevant data for the three recently acquired companies is as shown in the table below:

Valuation variables	Peto Ltd. Sh.	Diso Ltd. Sh.	Kero Ltd. Sh.
Pre-takeover share price	25.80	44.40	30.00
Acquisition share price	29.00	53.00	35.10
Earnings per share (EPS)	2.80	3.20	2.70
Sales per share	11.06	21.82	30.86
Book value per share	9.38	11.28	10.34

Required:

(i) The present value per share of Kasuku Ltd. using the discounted cash flow approach if the terminal value of Kasuku Ltd. is based on using the constant growth model to determine terminal value. (3 marks)

(ii) The value per share of Kasuku Ltd. using the discounted cash flow approach if the terminal value of Kasuku Ltd. is based on using the cash flow multiple method to determine terminal value. (3 marks)

(iii) The average share price of Kasuku Ltd. for the three relative valuation ratios, given that it is traded at the mean of the three valuations. (4 marks)

(iv) Estimate the fair acquisition price of Kasuku Ltd. based on the comparable company approach, taking into account the mean takeover premium on recent comparable takeovers. (3 marks)

(v) The fair acquisition share price of Kasuku Ltd. using the comparable transaction approach. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Although the principles of capital budgeting might seem straight forward, applying the principles to real world investment opportunities could be challenging.

Required:
Discuss three mistakes that corporate financial analysts might make when analysing capital budgeting projects. (3 marks)

(b) Although the capital budgeting model is widely employed in measuring income and valuing projects, financial analysts also use other procedures to divide up the cash flows from a company or project and then value them using discounted cash flow methods.

Required:
Describe the following models for measuring income and valuing assets:

(i) Economic profit model. (2 marks)

(ii) Residual income model. (2 marks)

(iii) Claims valuation model. (2 marks)

(c) Edward Mutemi, an investment and financial analyst working with Fiduciary Financial Services (FFS) is evaluating a project for one of his clients operating in the electronics sector, Fantec Solutions Ltd.

The following information relates to the project:

- Fixed capital outlay is Sh.3 billion.
- Investment in net working capital is Sh.0.8 billion.
- The project is expected to have a useful life of 12 years.

Additional information:
1. Fantec Solutions Ltd. adopts a straight-line depreciation method over a 6-year period with zero salvage value.
2. Additional annual revenues are expected to be Sh.0.2 billion.
3. Annual cash operating expenses will be reduced by Sh.0.5 billion.
4. The capital equipment will be sold for Sh.1.00 billion in year 12.
5. The corporate tax rate is 30%.
6. The project required rate of return is 10%.

Required:
(i) The annual after-tax operating cash flows for year 1 to year 6. (2 marks)

(ii) The annual after-tax operating cash flows for year 7 to year 12. (1 mark)

(iii) The initial project outlay. (2 marks)

(iv) The terminal year after-tax non-operating cash flow. (3 marks)

(v) The net present value of the project. (3 marks)
(Total: 20 marks)

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Present Value of 1 Received at the End of n Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	8734	.8573	.8417	.8264	7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	6575	.6407	.6086	.5787	.5245	.4768	4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	6806	.6499	.6209	.5674	5194	.4972	.4761	.4371	.4019	.3411	2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	2472	.2267	.1911	.1615	.1164	.0847	0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	1069	.0930	.0708	.0541	.0320	.0193	.0118	0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	0001
40	.6717	.4529	3056	.2083	.1420	.0972	.0668	0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001	.	.
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001	.	.	.	.
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	0004	.0002	.0001	.	.	.	.	.	.

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,n} = \sum_{t=1}^{n} \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	5.0916	4.6755	4.0013	3.4834	3.0764
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
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
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
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
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
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
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
40	32.8347	27.3555	23.1148	19.7928	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
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
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250

KASNEB

CIFA PART II SECTION 3

CORPORATE FINANCE

PILOT PAPER

September 2015. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) Explain the prime objective of inventory management. (3 marks)

(b) The following information relates to the inventory of MK Ltd.:

1. Annual purchases amount to Sh.1,080,000.
2. Purchase price per unit is Sh.30.
3. Carrying cost is 15% of the purchase price.
4. Cost per order is Sh.120.
5. Desired stock level is 1,500 units. The stock level was achieved at the start.
6. Lead time is 7 days.

Required:

(i) The economic order quantity. (4 marks)

(ii) The optimal number of orders to be placed in a year. (2 marks)

(iii) The re-order level. (3 marks)

(iv) Assume that for any orders of at least 1,800 units, the firm will get 5% discount on the purchase price.

Analyse whether the company should take advantage of the discount or not. (8 marks)

(Total: 20 marks)

QUESTION TWO

(a) Highlight any four factors to be taken into account when making capital structure decisions. (6 marks)

(b) A Ltd. and B Ltd. are two firms operating in the printing industry. The companies have the same business risk and are almost identical in all material aspects except in their capital structures as indicated below:

	A Ltd. **Sh."million"**	**B Ltd.** **Sh."million"**
Ordinary shares	20	25
Share premium	45	8
Retained profit	36.5	44
	101.5	77
12% debenture	-	25
	101.5	102

The nominal value of each share of A Ltd. is Sh.25 and is currently trading at Sh.140 each. The nominal value of each share of B Ltd. is Sh.100 and is currently trading at Sh.400 each. Debentures of B Ltd. are currently selling at par of Sh.100 per bond. Earnings before interest and tax in both firms are Sh.25 million per annum and corporate tax is payable at the rate of 30%.

Required:

(i) Assume you own 10% of ordinary shares of B Ltd. Using the Modigliani and Miller (MM) arguments, explain what action you would take in the above scenario to maximise your return. (Hint: use the arbitrage approach) (5 marks)

(ii) Calculate the arbitrage profit, if any from your action in (b) (i) above. (5 marks)

(iii) If A Ltd. borrows Sh.20 million, calculate its effect on the company's cost of capital according to MM theory. (4 marks)

(Total: 20 marks)

QUESTION THREE

(a) The Alpha Company Ltd. expects with some degree of certainty to generate the following net income and to have the following capital expenditure during the next five years:

Year	**1**	**2**	**3**	**4**	**5**
Net income Sh."million"	200	150	200	230	160
Capital expenditure Sh."million"	100	150	300	150	200

The company currently has 100 million shares of ordinary stock outstanding and pays dividends of Sh.1 per share. The company's target debt/equity ratio is 0.25.

Required:

(i) The dividend per share and total external financing from the issue of debt and issue of new equity required in each year if dividend policy is treated as a residual decision. (3 marks)

(ii) The dividend per share and amount of debt and new equity to be issued if a dividend payout ratio of 50% is maintained. (3 marks)

(iii) The amount in new issues of debt and equity to be raised each year if the present dividend per share is maintained. (3 marks)

(b) Maridadi Ltd. is considering buying an equipment for its manufacturing processes. The equipment would cost Sh.24,500,000. The company has made the following estimates of the after tax cash flows in each year over the equipment's possible life of 2 years.

Year 1		**Year 2**	
Net Cash Flow Sh.	**Probability**	**Net Cash Flow Sh.**	**Probability**
15,350,000	0.5	12,280,000	0.7
		18,430,000	0.3
12,500,000	0.5	24,050,000	0.4
		30,700,000	0.6

The outcome of year 2 cash flow is dependent on the outcome of year 1 cash flow. The company uses 12% discounting rate for the appraisal of investment projects.

Required:

(i) The equipment's expected net present value (NPV). (7 marks)

(ii) The project's net present value (NPV) and its probability if the worst outcome occurs. (2 marks)

(iii) The projects net present value (NPV) and its probability if the best outcome occurs. (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a) (i) In the context of corporate setup, explain any four causes of conflict between shareholders and the management. (4 marks)

(ii) Discuss the signs (symptoms) of financial distress in an organisation. (4 marks)

(b) The following is the summarised financial information of Keys Ltd.:

	Income statement		
	2012	**2013**	**2014**
	Sh."000"	**Sh."000"**	**Sh."000"**
Turnover	76,270	89,410	102,300
Taxable income	10,140	12,260	14,190
Taxation	(3,549)	(4,291)	(4,966)
Net income	6,591	7,969	9,224
Dividend	(2,335)	(2,557)	(2,800)
Retained earnings	4,256	5,412	6,424

Statement of financial position:

	2014	
	Sh. "000"	**Sh. "000"**
Non-current assets		54,000
Current assets	39,700	
Current liabilities	(26,200)	13,500
		67,500
Financed by:		
Ordinary shares (Sh.10 par)		20,000
Reserves		32,500
10% debentures (Sh.100 par)		15,000
		67,500

As a result of recent capital investment, stock market analysts expect post tax earnings and dividends to increase by 25% per annum for the next two years and then to revert to the company's existing growth rate. Key Ltd.'s overall asset beta is 0.763 and the beta coefficient of equity is 0.82. The risk free rate is 12% and the market return is 17%. The current market price of Key Ltd.'s ordinary shares is Sh.35.40 cum 2014 dividend and the debenture price is Sh.89.50 ex-interest. Corporate tax rate is 30%.

Required:

(i) Estimate what a fundamental analyst might consider to be the current intrinsic value of the company's shares. (Hint: cost of equity may be estimated using APM). (10 marks)

(ii) Comment on the significance of your estimate for the fundamental analyst in (b) (i) above. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Tala Pharmaceutical Company Ltd., a public quoted company, intends to raise additional share capital through a rights issue. The number of issued ordinary shares currently stands at 100 million ordinary shares. Each shareholder will have a right to purchase one ordinary share for every five shares currently held. The current market price per share is Sh.60 while the subscription price has been fixed at Sh.50 per share.

Required:

(i) The theoretical ex-right market price per share. (3 marks)

(ii) The theoretical value of each right. (2 marks)

(iii) Evaluate the impact of the rights issue on the value of wealth of a shareholder who owns 500,000 ordinary shares of the company and Sh.5,000,000 in his savings account assuming that the shareholder will:

- Exercise all his rights. (3 marks)
- Sell all his rights. (3 marks)
- Exercise 70% of his rights and sell the balance. (3 marks)
- Ignore the rights issue. (2 marks)

(b) Nono Ltd. is contemplating acquiring Konda Ltd. on a share for share exchange. Nono Ltd. is offering 3 of its shares for every 2 shares of Konda Ltd.

The financial data relating to the two companies are shown below:

	Nono Ltd.	**Konda Ltd.**
	Sh.	**Sh.**
Earnings attributable to owners	5,190,360	2,340,000
Earnings per share (EPS)	14.80	29.25
Market price per share (MPS)	222	322

The corporate tax rate is 30%.

Required:

(i) The maximum offer price that will not dilute the earnings per share (EPS) of Nono Ltd. (2 marks)

(ii) The total premium payable to the shareholders of Konda Ltd. (2 marks)

(Total: 20 marks)

KASNEB

CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 25 November 2015. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) Outline four reasons why organisations undertake corporate restructuring. (4 marks)

(b) Queens Ltd. is considering a project with the following cash flows:

Year	Cost of Plant Sh. "000"	Running costs Sh. "000"	Savings Sh. "000"
0	20,000		
1		8,000	24,000
2		10,000	28,000

Queens Ltd.'s cost of capital is 18%.

Required:

(i) The sensitivity of the project to changes in the levels of cost of plant, running costs and savings.

Hint: Consider each factor at a time and assume each factor is varied adversely by 10%. (8 marks)

(ii) Comment on the factor which is most sensitive to adverse variations. (1 mark)

(c) The following information was extracted from the financial statements of BMK Ltd:

	Sh. "million"
Credit sales	50,000
Cost of goods sold	40,000
Accounts receivable	5,000
Opening inventory	4,000
Closing inventory	4,600
Accounts payable	3,400

Assume a year has 365 days.

Required:

BMK Ltd.'s net operating cycle. (7 marks)

(Total: 20 marks)

QUESTION TWO

(a) Nobel prize winning economists Franco Modigliani and Merton Miller (MM) advanced the capital structure irrelevance theory that postulates that given certain assumptions, a firm's choice of capital structure does not affect its value.

Required:

In relation to the above statement, explain three assumptions underlying the capital structure irrelevance theory. (6 marks)

(b) Highlight five indicators of a possible business failure. (5 marks)

(c) Bitco Ltd. is considering a project involving the purchase of a new equipment with the following characteristics:

1. The equipment costs Sh.350,000 and an additional Sh.110,000 is needed to install it.
2. The equipment will be depreciated using straight-line basis to zero over a five-year life period.

3. The equipment will generate an additional annual revenue of Sh.265,000 and will have annual cash operating expenses of Sh.83,000.
4. The equipment will be sold for Sh.85,000 after five years.
5. An inventory investment of Sh.73,000 is required during the life of the investment.
6. Bitco Ltd. is in the 30% tax bracket.
7. The cost of capital is 10%.

Required:

(i) The net present value (NPV) of the project. (8 marks)

(ii) Advise the management of Bitco Ltd. on whether to purchase the equipment. (1 mark)

(Total: 20 marks)

QUESTION THREE

(a) Examine five pre-offer takeover mechanisms available to a target company prior to any hostile takeover action by a predator. (10 marks)

(b) Kubwa Ltd. intends to undertake a complete share acquisition of Ndogo Ltd. Kubwa Ltd. is offering three of its shares for every two shares of Ndogo Ltd. The information below relates to the two companies:

	Kubwa Ltd.	**Ndogo Ltd.**
	Sh.	**Sh.**
Earnings to ordinary shareholders	6,270,930	3,430,000
Earnings per share (EPS)	15.9	30.50
Market price per share (MPS)	236	340

The corporate tax is 30%.

Required:

(i) The maximum offer price that will not dilute the EPS of Kubwa Ltd. (3 marks)

(ii) The premium payable to the shareholders of Ndogo Ltd. (4 marks)

(iii) The combined growth rate of the two companies given that the rate of growth of Kubwa Ltd. is 9% per annum and that of Ndogo Ltd. is 13% per annum. (3 marks)

(Total: 20 marks)

QUESTION FOUR

(a) (i) Describe the term "real options" as used in capital budgeting. (2 marks)

(ii) Assess four types of real options. (8 marks)

(b) Mkombozi Ltd. operates a machine with the following characteristics:

1. The purchase cost of the machine is Sh.25,000,000.

2. The running costs (cash expenses) and resale value (end of year) values of the machine are as shown in the table below:

	Year 1	**Year 2**	**Year 3**	**Year 4**
Running costs (Sh. "000")	7,500	11,000	12,500	15,000
Resale value (Sh. "000")	15,000	10,000	7,500	2,500

3. The company's cost of capital is 10%.

Required:

Evaluate how frequently the machine should be replaced. (10 marks)

(Total: 20 marks)

QUESTION FIVE

(a) While Islamic finance industry represents a fraction of the global financial markets, it has grown at double-digit rates in recent years. By some estimates, total assets held globally under Islamic finance has surpassed 1 trillion United States dollar mark. In addition, Islamic banks have proved to be more resilient than conventional banks to the immediate effects of the international financial crisis and global economic downturn. Some analysts have attributed this resilience to the adherence to strict Islamic principles.

Required:

In relation to the above statement, discuss five principles of Islamic finance. (10 marks)

(b) Makwetu Ltd., a firm listed at AFDAQ Securities Exchange is financed by 20,000,000 ordinary shares and 10%, Sh.100 million irredeemable debentures. The market price per ordinary share is Sh.22 (ex-div) with an expected perpetual dividend of Sh.5 per annum.

Additional information:

1. The debentures are considered to be risk-free and are valued at par.
2. The board of directors of Makwetu Ltd. is contemplating investing in a project which costs Sh.25 million and generates annual before tax cash inflows of Sh.4.4 million indefinitely.
3. The beta of the project is estimated to be 1.5.
4. The return from a well-diversified market portfolio is 18%.

Required:

(i) The weighted average cost of capital of the company. (3 marks)

(ii) The beta of the company. (2 marks)

(iii) The beta of an equivalent ungeared company (ignore taxes). (2 marks)

(iv) Advise the company on whether the project should be accepted. (3 marks)

(Total: 20 marks)

Present Value of 1 Received at the End of n Periods:

$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	.1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	.0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	.1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	.0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	.0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001		
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001				
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001						

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,n} = \sum_{t=1}^{n} \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	5.0916	4.6755	4.0013	3.4834	3.0764
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
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
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
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
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
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
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
40	32.8347	27.3555	23.1148	19.7928	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
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
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250

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CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 1 September 2021. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) Safariland Ltd. is a large company listed on a major Securities Exchange. In recent years, the board of Safariland Ltd. has been criticised for weak corporate governance and two of the company's non-executive directors have just resigned. A recent story in the financial media has criticised the performance of Safariland Ltd. and claims that the company is failing to satisfy the objectives of its key stakeholders.

Required:
In relation to the above statement, discuss five ways of encouraging managers to achieve stakeholder objectives. (5 marks)

(b) The following is the capital structure of Ndege Ltd. as at 31 December 2020:

	Sh. "million"
Ordinary share capital at Sh.10 each	400
Retained earnings	200
10% preference share capital at Sh.20	100
12% debentures at Sh.100	200
	900

Additional information:
1. The corporate tax is 30%.
2. Preference shares were issued ten years ago and are still trading at par.
3. The debentures have a ten year maturity period. They are currently selling at Sh.90 in the market.
4. The ordinary shares are trading at Sh.40. Dividend paid last year was Sh.5 and is expected to grow at a rate of 5% per annum.

Required:
The weighted average cost of capital (WACC) of the company using market value weights. (7 marks)

(c) ABC Limited is evaluating two mutually exclusive projects. Project A will cost Sh.1,000,000 now and will generate cash flows of Sh.500,000 each year over its useful life of four years. Project B will cost Sh.2,500,000 and will generate cash flows of Sh.1,200,000 over its useful life of three years.

The cost of capital is 12%.

Required:
Advise the management of the company on the project to undertake using the equivalent annual net present value (EANPV) approach. (4 marks)

(d) A company is considering two mutually exclusive projects. The company uses the certainty equivalent approach.

The estimated cash flow and certainty equivalents for each project are as follows:

	Project 1		Project 2	
	Cash flows (Sh)	**Certainty Equivalents**	**Cash flows (Sh)**	**Certainty Equivalents**
0	-30,000	1.00	-40,000	1.00
1	15,000	0.95	25,000	0.90
2	15,000	0.85	20,000	0.80
3	10,000	0.70	15,000	0.70
4	10,000	0.65	10,000	0.60

The risk free rate is 5%.

Required:
Advise the company on the project to undertake using the certainty equivalent method. (4 marks)
(Total: 20 marks)

QUESTION TWO
Pendo Limited is considering investing Sh.5,750,000 in a new machine to produce product "X". The expected life of the machine is five years. The machine will have a zero salvage value at the end of five years. It is expected that 20,000 units of product "X" will be sold each year at a selling price of Sh.345 per unit. Variable production costs are expected to be Sh.189.75 per unit, while incremental fixed cost, mainly the wages of a maintenance engineer, are expected to be Sh.1,150,000 per year.

Pendo Limited uses a discount rate of 12% for investment appraisal purposes and expects investment projects to recover their initial investment within two years.

Required:
(a) Evaluate the sensitivity of the project's net prevent value to change in the following project variables:

(i) Sales volume. (2 marks)

(ii) Sales price. (2 marks)

(iii) Variable cost. (2 marks)

(b) Upon further investigation, it is found that there is a significant chance that the expected sales volume of product "X" of 20,000 units per year will not be achieved. The sales manager of Pendo Limited suggests that sales volumes could depend on expected economic states that could be assigned the following probabilities:

Economic state	**Poor**	**Normal**	**Good**
Probability	0.30	0.60	0.10
Annual sales volume (units)	17,500	20,000	22,500

Required:
(i) Calculate and comment on the Expected Net Present Value (ENPV) of the project. (6 marks)

(ii) Describe three advantages of sensitivity analysis in capital budgeting. (3 marks)

(c) Azera Limited is being evaluated as an acquisition target. Zablon Okeyo, a financial analyst at Wetu Capital, has estimated the following values for the year 2022:

- Net income Sh.300 million
- Net interest after tax Sh.100 million
- Change in deferred taxes Sh.25 million
- Depreciation Sh.200 million
- Change in net working capital Sh.30 million
- Capital expenditure (CAPEX) Sh.250 million

Required:
The firm's estimated free cash flow (FCF). (5 marks)
(Total: 20 marks)

QUESTION THREE

(a) In relation to corporate growth and restructuring:

(i) Explain two reasons for divestments. (4 marks)

(ii) Discuss two primary ways of growth of a business organisation. (4 marks)

(b) (i) Examine two criticisms of the Modigliani and Miller (MM) hypothesis without taxes. (4 marks)

(ii) Mashariki Ltd. is currently an all equity financed company. The firm's current capital structure is given as follows:

	Sh."000"
Ordinary share capital (Sh.20 each)	50,000
Retained profit	30,000
Share premium	10,000
	90,000

Additional information:

1. The firm's ordinary shares are currently trading at the Securities Exchange for Sh.25 each.
2. The cost of equity for an all equity financed firm is 12%.
3. The firm is considering acquisition of a 16% irredeemable debenture capital to raise Sh.20 million in order to finance an expansion. This will effectively change the firm's status from unlevered to a levered firm.
4. The corporation tax rate is 30%.

Required:

Using the Modigliani and Miller (MM) proposition in a world of corporation taxes, advise on whether the firm should change its capital structure. (8 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Highlight six potential pitfalls that a merger analyst should consider when reviewing acquisition transactions. (6 marks)

(b) KK Limited is considering taking over Oak Limited, a firm in the same industry in order to consolidate their market share.

Given below are financial data for both firms:

	KK Limited	**Oak Limited**
Number of issued ordinary shares	20 million	10 million
Earnings per share (EPS)	Sh.2.5	Sh.1.5
Market price per share (MPS)	Sh.50	Sh.30

Two alternative financing options available for KK Limited are given as follows:

Option 1

Issue new ordinary shares to the shareholders of Oak Limited in exchange for their current shareholding. A maximum exchange ratio of 0.5 shall be applied.

Option 2

Issue 20 units of 10% debenture for every 400 existing ordinary shares. The par value for each unit of debenture is Sh.10.

Corporation tax rate is 30%.

Required:

(i) Post acquisition earnings per share (EPS) under both financing options. (6 marks)

(ii) Using the results obtained (b) (i) above, recommend the preferable financing option. (2 marks)

(c) Company A, a levered company and Company B, an unlevered company are identical in every respect except that Company A has 6% Sh.200,000 debt outstanding. Jacob Omondi holds Sh.2,000 worth of the Company A shares. As per the net income (NI) approach, the valuation of the two firms is provided below:

	Company A	**Company B**
	Sh.	**Sh.**
Net operating income (NOI)	60,000	60,000
Total cost of debt	12,000	0
Net earnings	48,000	60,000
Equity capitalisation rate	0.111	0.100
Market value of shares	432,000	600,000
Market value of debt	200,000	0
Total value of the firm	632,000	600,000

Required:
Demonstrate how Jacob Omondi will reduce his outlay to earn the same return through the use of arbitrage.
(6 marks)
(Total: 20 marks)

QUESTION FIVE

(a) Describe four main principles of Islamic Finance. (4 marks)

(b) Outline four factors that could affect the level of working capital requirements of a business. (4 marks)

(c) Kimbo Limited wishes to improve its working capital management as part of an overall cost cutting strategy to increase profitability. Two areas the company has been considering are working capital funding strategy and inventory management. Kimbo Limited currently follows a policy of financing working capital needs as much as possible from long-term sources of finance, such as equity. The company has been considering its inventory management and has been looking specifically at component A.

Current position:
Kimbo Limited purchases 1,500,000 units of component A each year and consumes the component at a constant rate. The purchase price of component A is Sh.14 per unit. The company places 12 orders each year. Inventory of component A in the financial statements of Kimbo Limited is equal to average inventory of component A.

The holding cost of component A, excluding finance costs is Sh.0.21 per unit per year. The ordering cost of component A is Sh.252 per order.

Economic order quantity (EOQ):
Kimbo Limited wishes to investigate whether basing ordering component A on the economic order quantity will reduce costs.

Bulk order discount:
The supplier of component A has offered Kimbo Limited a discount of 0.5% on the purchase price of component A provided the company orders 250,000 units per order.

Additional information:
Kimbo Limited has no cash but has access to short-term finance (overdraft facility) at an interest rate of 3% per year. This overdraft currently stands at Sh.550,000

Required:

(i) The annual holding and ordering costs of Kimbo Limited's current inventory management system. (2 marks)

(ii) The financial effect of adopting the economic order quantity (EOQ) as the basis for ordering inventory. (5 marks)

(iii) The financial effect of accepting the bulk order discount. (4 marks)

(iv) Recommend which option should be selected by Kimbo Limited based on your results in (c) (i) - (iii) above. (1 mark)
(Total: 20 marks)

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Present Value Interest factor of 1 Received at the End of *n* Periods at r Percent:

$$PVIF_{r,n} = 1 / (1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.6944	0.6504	0.6400	0.5917
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.5787	0.5245	0.5120	0.4552
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.4823	0.4230	0.4096	0.3501
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4019	0.3411	0.3277	0.2693
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3349	0.2751	0.2621	0.2072
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.2791	0.2218	0.2097	0.1594
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2326	0.1789	0.1678	0.1226
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.1938	0.1443	0.1342	0.0943
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.1615	0.1164	0.1074	0.0725
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1346	0.0938	0.0859	0.0558
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1122	0.0757	0.0687	0.0429
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1452	0.0935	0.0610	0.0550	0.0330
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.0779	0.0492	0.0440	0.0254
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0649	0.0397	0.0352	0.0195
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0541	0.0320	0.0281	0.0150
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0451	0.0258	0.0225	0.0116
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0376	0.0208	0.0180	0.0089
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0313	0.0168	0.0144	0.0068
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0261	0.0135	0.0115	0.0053
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0217	0.0109	0.0092	0.0040
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0181	0.0088	0.0074	0.0031
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0151	0.0071	0.0059	0.0024
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431	0.0349	0.0284	0.0126	0.0057	0.0047	0.0018
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0105	0.0046	0.0038	0.0014
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0256	0.0196	0.0151	0.0116	0.0042	0.0016	0.0012	*
35	0.7059	0.5000	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0259	0.0189	0.0139	0.0102	0.0075	0.0055	0.0017	0.0005	*	*
36	0.6989	0.4902	0.3450	0.2437	0.1727	0.1227	0.0875	0.0626	0.0449	0.0323	0.0234	0.0169	0.0123	0.0089	0.0065	0.0048	0.0014	*	*	*
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0154	0.0107	0.0075	0.0053	0.0037	0.0026	0.0007	*	*	*
50	0.6080	0.3715	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0054	0.0035	0.0022	0.0014	0.0009	0.0006	*	*	*	*

Present Value Interest factors for Annuity of 1 Discounted at r Percent for *n* Periods:

$$PVIFA_{r,n} = [1 - 1/(1+r)^n] / r$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5278	1.4568	1.4400	1.3609
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2459	2.1065	1.9813	1.9520	1.8161
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.5887	2.4043	2.3616	2.1662
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	2.9906	2.7454	2.6893	2.4356
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.9975	3.8887	3.7845	3.6847	3.3255	3.0205	2.9514	2.6427
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0386	3.6046	3.2423	3.1611	2.8021
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.7988	4.6389	4.4873	4.3436	3.8372	3.4212	3.3289	2.9247
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.0310	3.5655	3.4631	3.0190
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.1925	3.6819	3.5705	3.0915
11	10.368	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.3271	3.7757	3.6564	3.1473
12	11.255	10.575	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	5.1971	4.4392	3.8514	3.7251	3.1903
13	12.134	11.348	10.635	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	4.5327	3.9124	3.7801	3.2233
14	13.004	12.106	11.296	10.563	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	4.6106	3.9616	3.8241	3.2487
15	13.865	12.849	11.938	11.118	10.380	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	4.6755	4.0013	3.8593	3.2682
16	14.718	13.578	12.561	11.652	10.838	10.106	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	4.7296	4.0333	3.8874	3.2832
17	15.562	14.292	13.166	12.166	11.274	10.477	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	4.7746	4.0591	3.9099	3.2948
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	4.8122	4.0799	3.9279	3.3037
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	4.8435	4.0967	3.9424	3.3105
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	4.8696	4.1103	3.9539	3.3158
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	4.8913	4.1212	3.9631	3.3198
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	4.9094	4.1300	3.9705	3.3230
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	4.9245	4.1371	3.9764	3.3254
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.7066	8.9847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	4.9371	4.1428	3.9811	3.3272
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	4.9476	4.1474	3.9849	3.3286
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.4269	8.6938	8.0552	7.4957	7.0027	6.5660	6.1772	4.9789	4.1601	3.9950	3.3321
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.6442	8.8552	8.1755	7.5856	7.0700	6.6166	6.2153	4.9915	4.1644	3.9984	3.3330
36	30.108	25.489	21.832	18.908	16.547	14.621	13.035	11.717	10.612	9.6765	8.8786	8.1924	7.5979	7.0790	6.6231	6.2201	4.9929	4.1649	3.9987	3.3331
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.7791	8.9511	8.2438	7.6344	7.1050	6.6418	6.2335	4.9966	4.1659	3.9995	3.3332
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.9148	9.0417	8.3045	7.6752	7.1327	6.6605	6.2463	4.9995	4.1666	3.9999	3.3333

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CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 19 May 2021. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) Jamii Ltd. has decided to purchase a new machine that costs Sh. 3 million. The machine will be worthless after three years and will be depreciated on a straight line basis.

Umoja Bank has offered Jamii Ltd. a three year loan of Sh.3 million. The repayment schedule is composed of three-yearly principal repayments of Sh.1 million and an interest charge at the rate of 12% per annum on the outstanding balance of the loan at the beginning of each year. The market wide rate of interest is 12% per annum. Both principal repayments and interest are due at the end of each year.

Pamoja leasing Ltd. offers to lease the same machine to Jamii Ltd. The lease payments of Sh.1.2 million per year are due at the end of each of the three years of the lease.

The corporation tax rate is 30%.

Required:

Advise Jamii Ltd. on whether it should lease the machine or buy it with bank financing. (8 marks)

(b) Bidii Machinery Ltd. is planning to replace an old machine with a new one. The old machine had a cost of Sh.650,000 and the new one will cost Sh.780,000. The new machine will be depreciated on a straight line basis to zero over its five year useful life. It will have a salvage value of Sh.140,000 after five years.

The old machine is being depreciated at the rate of Sh.130,000 pear year. It will be completely written off in three years. If it is not replaced now, it will have to be replaced in two years. It can be sold now for Sh.230,000; in two years, it will be worth Sh.90,000.

The new machine will save Bidii Machinery Ltd. Sh.125,000 per year in operating costs.

The corporate tax rate is 30% and the discount rate is 14%.

Required:

Determine whether the machine should be replaced now or Bidii Machinery Ltd. should wait to replace it in two years' time. (12 marks)

(Total: 20 marks)

QUESTION TWO

(a) Explain three types of commonly used contracts in Islamic finance. (6 marks)

(b) Explain two limitations of sensitivity analysis in capital investment decisions. (4 marks)

(c) Bahati Ltd. sells Product A and Product B, with sales of both products occurring evenly throughout the year.

Product A

The annual demand for Product A is 300,000 units and an order for new inventory is placed each month. Each order costs Sh.267 to place. The cost of holding Product A in inventory is Sh.0.10 per unit per year. Buffer inventory equal to 40% of one month's demand is maintained.

Product B

The annual demand for Product B is 456,000 units per year and Bahati Ltd. buys this product at Sh.1 per unit on 60 days credit. The supplier has offered an early settlement discount of 1% for settlement of invoices within 30 days.

Additional information:
1. Bahati Ltd. finances working capital with short-term finance costing 5% per year.
2. There are 365 days in a year.

Required:

(i) For Product A, calculate the net cost or savings of introducing an ordering policy using the economic order quantity (EOQ). (6 marks)

(ii) Calculate the net value to Bahati Ltd. of accepting an early settlement discount for Product B. (4 marks)

(Total 20 marks)

QUESTION THREE

(a) Describe three financial strategies that could be used in corporate restructuring. (6 marks)

(b) Faida Ltd. is analysing the possible acquisition of Hasara Ltd. Neither firm has debt. The forecast of Faida Ltd. shows that the purchase would increase its annual after-tax cash flow by Sh.600,000 indefinitely.

Additional information:
1. The current market value of Hasara Ltd. is Sh.20 million.
2. The current market value of Faida Ltd. is Sh.35 million.
3. The appropriate discount rate for the incremental cash flow is 8%.
4. Faida Ltd. is trying to decide whether it should offer 25% of its stock or Sh.15 million in cash to Hasara Ltd.

Required:

Determine which alternative Faida Ltd. should use. (6 marks)

(c) Bamboo Ltd. has an equity cost of capital of 14.4% and a debt cost of capital of 6%. The firm maintains a debt-equity ratio of 1. Bamboo Ltd. is considering an expansion that will contribute Sh.4 million in free cash flows for the first year growing by 4% per year thereafter. The expansion will cost Sh.60 million and will be financed with Sh.40 million in new debt initially with a constant debt-equity ratio maintained thereafter.

Bamboo Ltd.'s corporate tax rate is 30%, the tax rate on interest income is 15% and the tax rate on equity income is 5%.

Required:

Compute the value of the expansion using the adjusted present value (APV) method. (8 marks)

(Total 20 marks)

QUESTION FOUR

(a) Explain three disadvantages of using the internal rate of return in project appraisal. (6 marks)

(b) A Ltd. and B Ltd. are firms operating in the same industry and are considered to be in the same risk class. Each firm generates operating profit (EBIT) of Sh.125 million in each year. The capital structures of both firms are as follows:

	A Ltd. **Sh."million"**	**B Ltd.** **Sh."million"**
Equity (market value)	875	750
10% debt (Trading at par)	-	500
	875	1,250

Each of the two firms adopts a 100% payout ratio as its dividend policy. The corporation tax rate applicable is 30%.

Required:
Using the Modigliani and Merton Miller (MM) II proposition with corporation tax:

(i) Determine the equilibrium market value for both firms. (2 marks)

(ii) Calculate the weighted average cost of capital (WACC) for both firms. (4 marks)

(iii) Comment on your observations in (b) (i) and (b) (ii) above. (2 marks)

(c) Unda Ltd.'s current earnings per share (EPS) is Sh.12. The firm adopts a 40% dividend payout ratio as its dividend policy. The firm has in issue 10,000,000 ordinary shares. The existing capital structure of the firm is given as follows:

	Sh."000"
Ordinary share capital	800,000
Retained profit	300,000
Share premium	100,000
12% debt	400,000
	1,600,000

Additional information:
1. The firm's equity beta coefficient is 1.4.
2. The risk free rate of return is 10%.
3. The expected rate of return on market portfolio is 15%.

Required:
(i) Using the capital asset pricing model (CAPM), determine the minimum required return on the company's equity shares. (2 marks)

(ii) Using the dividend growth model, compute the current value of each equity share. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) X Ltd. is considering acquiring Y Ltd. The following information relates to Y Ltd. for the next five years:

	Sh."million"				
Year	**2022**	**2023**	**2024**	**2025**	**2026**
Net sales	1,050	1,260	1,510	1,740	1,910
Cost of sales	735	882	1,057	1,218	1,337
Selling and distribution expenses	100	120	130	150	160
Interest expense	50	50	70	90	110

Additional information:
1. After the year 2026, cash flows available to X Ltd. from Y Ltd. are expected to grow by 10% per annum in perpetuity.
2. Y Ltd. will retain Sh.40 million for internal expansion every year.
3. The cost of capital is 18%.

Required:
(i) Estimate the annual free cash flows. (4 marks)

(ii) Determine the maximum price payable by X Ltd. to acquire Y Ltd. (8 marks)

(b) Timba Ltd. has an investment opportunity for which the initial cash outlay and future cash inflows are uncertain. The firm expects to delay implementation of the project for 1 year.

The cash outlay in year 1 and subsequent annual cash inflows and probability of their occurrence are summarised as follows:

Cash outlay		**Annual cash inflows**	
Probability	**Amount Sh."000"**	**Probability**	**Amount Sh."000"**
0.30	200,000	0.30	30,000
0.20	250,000	0.40	45,000
0.10	300,000	0.30	50,000
0.40	400,000		

Additional information:

1. The cost of capital is 12%.
2. Life expectancy of the project is ten years.
3. The salvage value is nil.

Required:

Using decision tree analysis:

(i) Compute the expected net present value (NPV) of the project. (7 marks)

(ii) Advise on the suitability or otherwise of the project. (1 mark)

(Total: 20 marks)

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Present Value of 1 Received at the End of n Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	3066	.2083	.1420	.0972	.0668	0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001		
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001				
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001						

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,n} = \sum_{t=1}^{n} \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
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
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
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
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
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
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
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
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
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
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	4.8337	4.4941	4.1925	3.6819	3.2689	2.9304
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
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
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
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
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	5.0916	4.6755	4.0013	3.4834	3.0764
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
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
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
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
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
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
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
40	32.8347	27.3555	23.1148	19.7928	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
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
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250

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CIFA PART II SECTION 3

CORPORATE FINANCE

THURSDAY: 26 November 2020. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) (i) Explain the term "agency costs" as used in the context of corporate finance. (2 marks)

(ii) Describe two ways in which agency costs relating to the conflict of interest between shareholders and bondholders may show up as real costs. (4 marks)

(b) An analyst has gathered the following information using the latest financial year's statements and interviews with managers of Chuma Limited:

Number of units produced and sold	1,000,000 units
Sales price per unit	Sh.108
Variable cost per unit	Sh.72
Fixed operating costs	Sh.22.5 million
Fixed financing expenses	Sh.9 million

Required:
Calculate the following for Chuma Limited at a sales volume of 1,000,000 units (ignore taxation):

(i) Degree of operating leverage (DOL). (2 marks)

(ii) Degree of financial leverage (DFL). (2 marks)

(iii) Degree of total leverage (DTL). (2 marks)

(c) Damiano Okulo is an analyst who is following the market performance of Mali Limited. He believes that Mali Limited is a likely takeover candidate and plans to estimate its value per share using comparable company analysis and comparable transaction analysis approaches. He gathers data on two companies which are comparable to Mali Limited, namely; Alphatech Limited and Betatech Limited. He believes that price-to-earnings, price-to-sales and price-to-book value per share of these companies should be used to value Mali Limited.

The relevant data for the three companies is provided below:

Valuation variables	**Alphatech Limited**	**Betatech Limited**	**Mali Limited**
	Sh.	**Sh.**	**Sh.**
Current market price per share	72.00	45.00	24.00
Earnings per share	2.00	1.50	1.00
Sales per share	32.00	22.50	16.00
Book value per share	18.00	10.00	8.00

Damiano Okulo also identifies one recent takeover transaction (Mavuno Limited) and analyses its takeover premium. Mavuno Limited is comparable to the possible transaction on Mali Limited. Mavuno Limited had a share price of Sh.44.40 per share prior to a website report of a takeover rumour. After the takeover rumour was reported, the share price rose to Sh.60.30 per share. Eventually, the takeover offer was accepted by Mavuno Limited's shareholders for Sh.55.00 per share.

Required:
The best takeover price per share of Mali Limited. (8 marks)

(Total: 20 marks)

QUESTION TWO

(a) Ali Limited and Baba Limited are firms operating in the same industry. The firms are similar and identical in all respects except in their capital structures. Both firms generate annual sales of Sh.800 million. The gross profit margin for both firms is 40% with estimated annual operating costs of Sh.70 million for each firm.

The capital structures of the firms are as follows:

	Ali Limited Sh. "million"	**Baba Limited Sh. "million"**
Equity (market value)	1,750	1,500
8% debt (trading at par)	-	1,000
	1,750	2,500

The two companies adopt a 100% payout ratio as their dividend policy. The corporation tax rate is 30%.

Required:
Using the Modigliani and Miller (MM) propositions with corporate taxes:

(i) Determine the equilibrium market value for each firm. (4 marks)

(ii) The weighted average cost of capital (WACC) of each firm. (6 marks)

(iii) Comment on the results obtained in (a) (i) and (a) (ii) above. (2 marks)

(b) Bahari Limited has a target capital structure composed of 70% equity and 30% debt. The schedule of the costs of the components of capital of the company is provided in the table below:

Amount of new debt Sh."million"	**After tax cost of debt**	**Amount of new equity Sh."million"**	**Cost of equity**
0 to 150	3.90%	0 to 300	6.00%
150 to 300	4.40%	300 to 600	7.80%
300 to 450	4.80%	600 to 900	10.00%

Required:
Calculate the break-points and illustrate the marginal cost of capital schedule for Bahari Limited. (8 marks)

(Total 20 marks)

QUESTION THREE

(a) Bidii Limited is evaluating a new project to produce lawn mowers. The initial investment in plant and equipment is Sh.500 million. Sales of lawn mowers in year 1 are forecasted at Sh.200 million and costs at Sh.100 million. Both are expected to increase by 10% each year in line with inflation. The corporation tax rate is 30%. Working capital in each year consists of inventories of raw materials and is forecasted at 20% of sales in the following year.

The project will last for five years and the equipment at the end of this period will have no resale value. For tax purposes, the equipment can be depreciated on a straight line basis over these five years. The nominal discount rate is 15%.

Required:
Show that the net present value (NPV) of the project is the same whether calculated using real cash flows or nominal cash flows. (10 marks)

(b) Boma Ltd. has in issue 8 million ordinary shares with an ex-dividend market value of Sh.7.16 per share. A dividend of Sh.0.62 per share for 2019 has just been paid. The pattern of recent dividends is as follows:

Year	2016	2017	2018	2019
Dividend per share Sh.	0.551	0.579	0.591	0.62

Boma Ltd. also has in issue 8.5% bonds which are redeemable in five years' time with a total nominal value of Sh.5 million. The market value of each Sh.100 bond is Sh.103.42.

Redemption will be at nominal value.

Boma Ltd. is planning to invest a significant amount of money in a joint venture in a new business area. It has identified a proxy company with similar business risk to the joint venture. The proxy company has an equity beta of 1.038 and is financed 75% by equity and 25% by debt on a market value basis.

The current risk-free rate of return is 4% and the average equity risk premium is 5%. The corporate tax rate is 30% and Boma Ltd. has an equity beta of 1.6.

Required:

(i) The after tax weighted average cost of capital (WACC) for Boma Ltd. using the dividend growth model. (6 marks)

(ii) A project-specific cost of equity for Boma Ltd. for the planned joint venture. (4 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Mamba Ltd. is considering an investment in two alternative projects; X and Y. Both investments require an initial cash outlay of Sh.1,800,000. The firm expects to invest in only one of the projects.

Project X has a useful life of 3 years whereas project Y has a useful life of 4 years. Both projects shall not have resale values at the end of their useful lives.

Given below are the operating cash flows expected from each project for each year:

Year	Project X Sh."000"	Project Y Sh."000"
1	800	700
2	900	700
3	850	700
4	-	700

Addition information:

1. The risk indices for the projects are given as follows:

Project	Risk index
X	1.0
Y	1.2

2. The risk-free rate of return is 8%.
3. The expected return on the market portfolio is 15%.

Required:

(i) The risk-adjusted discounting rate for each project. (2 marks)

(ii) Advise on which project the firm should undertake when evaluated using the equivalent annuity approach. (6 marks)

(b) The new credit manager of Mali Mali Enterprises plans to liberalise the firm's credit policy. The firm currently generates credit sales of Sh.287,500,000 annually. The more lenient policy is expected to produce credit sales of Sh.375,000,000. The bad debt losses on additional sales are projected to be 10%. An additional collection expenditure of Sh.7,500,000 will be incurred. The new credit manager anticipates that production and selling costs other than additional bad debts and collection expenses will remain at 70% of the additional sales.

The firm pays corporate tax at the rate of 30% after deductible expenses.

Assume 360 days in a year.

Required:

(i) Assuming that the firm maintains a debtors turnover of 15 times, calculate by how much the debtors' balance will increase. 4 marks)

(ii) Compute the firm's incremental return on investment. (4 marks)

(iii) Assuming additional stocks of Sh.17,500,000 are required and additional creditors of Sh.7,500,000 will arise in order to support the additional sales, compute the after tax return on additional investment. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) In relation to Islamic finance, highlight six features of a Musharakah contract. (6 marks)

(b) 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

You are provided with the following information in respect of two listed companies:

Company	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"
Alpha Ltd.	4,000	60,000	10,000	20,000	200,000	120,000	200,000
Falcon Ltd.	40,000	200,000	30,000	100,000	1,800,000	1,000,000	2,000,000

Required:

(i) The Z – score for each company. (4 marks)

(ii) Interpret the results obtained in (b) (i) above. (2 marks)

(iii) Explain four shortcomings of Altman's model for predicting corporate failure. (8 marks)

(Total: 20 marks)

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Present Value Interest factor of 1 Received at the End of *n* Periods at r Percent:

$PVIF_{r,n} = 1 / (1+r)^{n} = (1+r)^{-n}$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.6944	0.6504	0.6400	0.5917
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.5787	0.5245	0.5120	0.4552
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.4823	0.4230	0.4096	0.3501
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4019	0.3411	0.3277	0.2693
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3349	0.2751	0.2621	0.2072
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.2791	0.2218	0.2097	0.1594
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2326	0.1789	0.1678	0.1226
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.1938	0.1443	0.1342	0.0943
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.1615	0.1164	0.1074	0.0725
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1346	0.0938	0.0859	0.0558
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1122	0.0757	0.0687	0.0429
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1452	0.0935	0.0610	0.0550	0.0330
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.0779	0.0492	0.0440	0.0254
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0649	0.0397	0.0352	0.0195
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0541	0.0320	0.0281	0.0150
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0451	0.0258	0.0225	0.0116
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0376	0.0208	0.0180	0.0089
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0313	0.0168	0.0144	0.0068
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0261	0.0135	0.0115	0.0053
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0217	0.0109	0.0092	0.0040
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0181	0.0088	0.0074	0.0031
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0151	0.0071	0.0059	0.0024
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431	0.0349	0.0284	0.0126	0.0057	0.0047	0.0018
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0105	0.0046	0.0038	0.0014
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0256	0.0196	0.0151	0.0116	0.0042	0.0016	0.0012	*
35	0.7059	0.5000	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0259	0.0189	0.0139	0.0102	0.0075	0.0055	0.0017	0.0005	*	*
36	0.6989	0.4902	0.3450	0.2437	0.1727	0.1227	0.0875	0.0626	0.0449	0.0323	0.0234	0.0169	0.0123	0.0089	0.0065	0.0048	0.0014	*	*	*
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0154	0.0107	0.0075	0.0053	0.0037	0.0026	0.0007	*	*	*
50	0.6080	0.3715	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0054	0.0035	0.0022	0.0014	0.0009	0.0006	*	*	*	*

Present Value Interest factors for Annuity of 1 Discounted at r Percent for *n* Periods:

$PVIFA_{r,n} = [1 - 1/(1+r)^{n}] / r$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5278	1.4568	1.4400	1.3609
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2459	2.1065	1.9813	1.9520	1.8161
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.5887	2.4043	2.3616	2.1662
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	2.9906	2.7454	2.6893	2.4356
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.9975	3.8887	3.7845	3.6847	3.3255	3.0205	2.9514	2.6427
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0386	3.6046	3.2423	3.1611	2.8021
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.7988	4.6389	4.4873	4.3436	3.8372	3.4212	3.3289	2.9247
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.0310	3.5655	3.4631	3.0190
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.1925	3.6819	3.5705	3.0915
11	10.368	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.3271	3.7757	3.6564	3.1473
12	11.255	10.575	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	5.1971	4.4392	3.8514	3.7251	3.1903
13	12.134	11.348	10.635	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	4.5327	3.9124	3.7801	3.2233
14	13.004	12.106	11.296	10.563	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	4.6106	3.9616	3.8241	3.2487
15	13.865	12.849	11.938	11.118	10.380	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	4.6755	4.0013	3.8593	3.2682
16	14.718	13.578	12.561	11.652	10.838	10.106	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	4.7296	4.0333	3.8874	3.2832
17	15.562	14.292	13.166	12.166	11.274	10.477	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	4.7746	4.0591	3.9099	3.2948
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	4.8122	4.0799	3.9279	3.3037
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	4.8435	4.0967	3.9424	3.3105
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	4.8696	4.1103	3.9539	3.3158
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	4.8913	4.1212	3.9631	3.3198
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	4.9094	4.1300	3.9705	3.3230
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	4.9245	4.1371	3.9764	3.3254
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.7066	8.9847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	4.9371	4.1428	3.9811	3.3272
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	4.9476	4.1474	3.9849	3.3286
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.4269	8.6938	8.0552	7.4957	7.0027	6.5660	6.1772	4.9789	4.1601	3.9950	3.3321
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.6442	8.8552	8.1755	7.5856	7.0700	6.6166	6.2153	4.9915	4.1644	3.9984	3.3330
36	30.108	25.489	21.832	18.908	16.547	14.621	13.035	11.717	10.612	9.6765	8.8786	8.1924	7.5979	7.0790	6.6231	6.2201	4.9929	4.1649	3.9987	3.3331
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.7791	8.9511	8.2438	7.6344	7.1050	6.6418	6.2335	4.9966	4.1659	3.9995	3.3332
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.9148	9.0417	8.3045	7.6752	7.1327	6.6605	6.2463	4.9995	4.1666	3.9999	3.3333

kasneb

CIFA PART II SECTION 3

CORPORATE FINANCE

TUESDAY: 26 November 2019. **Time Allowed: 3 hours.**

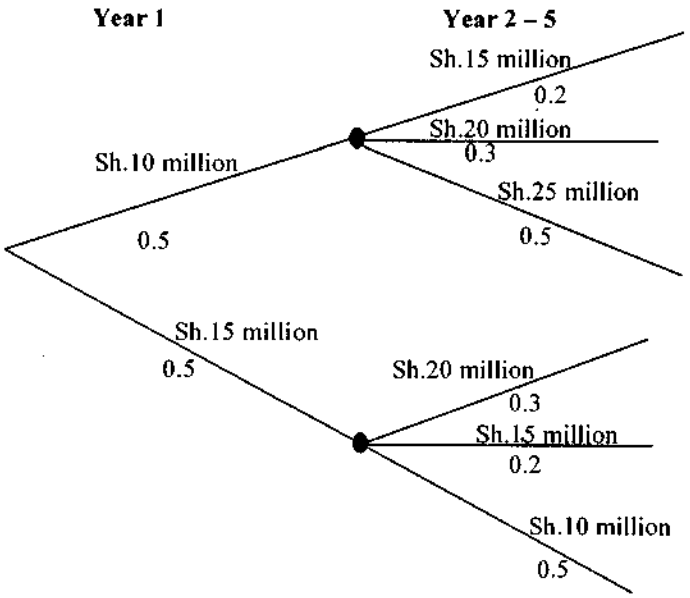
Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) With reference to agency theory, highlight four causes of agency problems that could arise between shareholders and government. (4 marks)

(b) Zimco Limited is considering acquiring a new machine at a cost of Sh.20 million. The machine is expected to have a useful life of five years with a nil salvage value after five years.

The expected net cash flows and associated probabilities of occurrence are summarised below:



The company's required rate of return for this investment is 11%.

Required:

(i) Expected net present value (ENPV) of the project using decision tree analysis. (6 marks)

(ii) Expected standard deviation of the project. (4 marks)

(iii) If the net present value of the project is less than Sh.2 million, the firm will be exposed to financial distress.

Determine the probability that the firm will avoid financial distress (Assume a normal distribution). (2 marks)

(c) Nevok Industries Ltd. is currently an all equity financed firm. The firm expects to generate earnings before interest and taxes (EBIT) of Sh.10 million over the next year. Currently, Nevok Industries Ltd. has 10 million outstanding ordinary shares. The shares are currently trading at a price of Sh.7.50 per share at the security exchange. The firm is considering changing its capital structure by borrowing Sh.15 million at an interest rate of 8% per annum and use the proceeds to purchase 2 million ordinary shares at a price of Sh.7.50 each.

Assume that the firm's EBIT is not expected to grow in the future and that all earnings are paid as dividends.

Required:
Using Modigliani and Miller (MM) propositions I and II, show that an increase in expected earnings per share (EPS) for Nevok Industries Ltd. will not lead to an increase in the share price. (4 marks)
(Total: 20 marks)

QUESTION TWO

(a) Baobab Limited has not been paying dividends since inception. The Chief Finance Officer (CFO) of the company has been directed by the Board to develop a dividend policy to guide on the payments of dividends in the future.

Required:
In light of the above statement, explain three advantages and three disadvantages of dividend payments to shareholders. (6 marks)

(b) (i) Distinguish between "permanent working capital" and "seasonal working capital". (2 marks)

(ii) Xee Ltd. currently sells goods on terms of "net 30". The firm is considering adoption of terms "3/15 net 45". This change will effectively increase its average collection period from 35 days to 40 days.

The firm's current turnover is an average of Sh.50 million per annum. However, the relaxation of the terms of sale will increase annual sales by 20%.

The firm's cost of sales is 40% of turnover. 80% of the sales are made on credit basis. All credit customers will take advantage of the 3% discount offer.

Bad debts are estimated at 5% of credit sales and inventory levels are 10% of gross turnover.

The minimum required rate of return is 12% and the firm pays corporation tax at a rate of 30% per annum.

(Assume 365 days in a year).

Required:
Using suitable calculations, advise Xee Ltd. on whether to adopt the revised credit policy. (9 marks)

(c) SLM Ltd. has cash out flows of Sh.100,000 every day, seven days a week. The interest rate is 5% and the fixed cost of replenishing cash balance is Sh.100 per transaction.

The year has 365 days.

Required:
The optimal initial cash balance using the Baumol-Allias-Tobin (BAT) model. (3 marks)
(Total 20 marks)

QUESTION THREE

(a) Identify three symptoms of financial distress in a firm. (3 marks)

(b) Eagle Limited is considering acquiring Pelican Limited, a firm in the same industry, so as to consolidate its market share. Given below are financial data for both firms:

	Eagle Limited	**Pelican Limited**
Number of issued ordinary shares	10 million	5 million
Earnings per share (EPS)	Sh.4	Sh.2
Market price per share (MPS)	Sh.50	Sh.25
Price to earnings (P/E) ratio	12.5 times	12.5 times

Eagle Limited is considering financing acquisition of Pelican Limited on a share for share exchange. It is considering offering 2 new shares to the shareholders of Pelican Limited in exchange of 4 shares held.

Assume a corporation tax rate of 30%.

Required:

(i) Non-diluting offer price. (2 marks)

(ii) Non-diluting maximum exchange ratio. (2 marks)

(iii) The post acquisition EPS of Eagle Limited at the exchange ratio they are considering offering. (3 marks)

(iv) If the price to earnings (P/E) ratio of Eagle Limited rises to 15 times after the acquisition, determine the post acquisition market price of a share of Eagle Limited. (2 marks)

(c) Double K Limited is concerned whether antitrust regulators would consider the acquisition of Tripple G Limited an antitrust violation. The market in which the two companies operate consist of eight competitors. The largest company has a 25% market share. Double K Limited has the second largest market share of 20%. Five companies including Tripple G Limited each have a market share of 10%. The smallest company has a 5% market share.

Required:

(i) Calculate the increase in the Herfindahl-Hirschman Index (HHI). (4 marks)

(ii) Explain the probable action by the antitrust regulator based on your answer in (c) (i) above. (2 marks)

(iii) Outline one strength and one weakness of the HHI model. (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Explain four distinct features of Islamic Finance. (4 marks)

(b) Describe two sources of Islamic Finance that are an alternative to a right issue and a loan note. (4 marks)

(c) The following is an extract of the statement of financial position of Tausi Limited, a company quoted at the Securities Exchange:

	Sh."million"	Sh."million"
Equity and liabilities:		
Equity:		
Share capital	17	
Retained earnings	15	
Total equity		32
Liabilities:		
Long term liabilities	13	
Current liabilities	21	
Total liabilities		34
Total equity and liabilities		66

Additional information:

1. The share capital of the company consists of Sh.12 million of ordinary shares and Sh.5 million irredeemable preference shares.
2. The ordinary shares have a nominal value of Sh.0.50 per share, an ex-dividend market price of Sh.7.07 per share and a cum-dividend market price of Sh.7.52 per share.
3. The dividend for the year 2019 will be paid in the near future.
4. Dividends paid in recent years have been as follows:

Year	2018	2017	2016	2015
Dividend per share (Sh)	0.43	0.41	0.39	0.37

5. The 5% preference shares have a nominal value of Sh.0.50 per share and an ex-dividend market price of Sh.0.31 per share.
6. The long-term borrowings for the company consist of Sh.10 million of loan notes and a Sh.3 million bank loan. The bank loan has variable interest rate.
7. The 7% loan notes have a nominal value of Sh.100 per loan note and a market price of Sh.102.34 per loan note. Annual interest has just been paid and the loan notes are redeemable in four year's time at a 5% premium to nominal value.
8. The corporation tax rate is 30%.

Required:

The after tax weighted average cost of capital (WACC) on a market value basis. (12 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Explain the following terms as used in corporate restructuring:

(i) Management buyout (MBO). (1 mark)

(ii) Leveraged buyout (LBO). (1 mark)

(iii) Employee buyout. (1 mark)

(iv) Spin out. (1 mark)

(b) Ndovu Limited is considering the purchase of a new machine with an operating life of three years. The new machine could be leased for three payments of Sh.55,000 payable annually in advance.

Alternatively, the machine could be purchased for Sh.160,000 using a bank loan at a cost of 8% per year. If the machine is purchased, Ndovu Limited will incur maintenance costs of Sh.8,000 per year, payable at the end of each year of operation. The machine would have a residual value of Sh.40,000 at the end of its three year life.

The company's production manager estimates that if maintenahce cost routines were upgraded, the new machine could be operated for a period of four years with maintenance costs increasing to Sh.12,000 per year payable at the end of each year of operation. If operated for four years, the machine's residual value would fall to Sh.11,000.

The cost of capital is 8%.

Required:

(i) Advise Ndovu Limited on whether it should lease or purchase the machine assuming that it is operated for a period of three years. (6 marks)

(ii) Calculate the equivalent annual cost of purchasing and operating the machine for both three years and four years and recommend which replacement interval should be adopted. (6 marks)

(c) A company's present capital structure consists of Sh.20,000,000 shares of equity stock. The company requires Sh.100,000,000 of external financing for which it is considering two alternatives:

Alternative A. Issue 5,000,000 equity shares of Sh.10 par at Sh.20 each.

Alternative B Issue 3,000,000 equity shares of Sh.10 par at Sh.20 each and 4,000,000 preference shares of Sh.10 par carrying 11% dividend.

The company tax rate is 30%.

Required:

Determine the earnings per share-profit before interest and taxes (EPS-PBIT) indifference point for alternative A and alternative B. (4 marks)

(Total: 20 marks)

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Present Value of 1 Received at the End of n Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745	.2394	.1827	.1401	.1229	.1079	0835	.0649	.0397	.0247	.0155	0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001	.	.
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001	.	.	.	.
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001	.	.	.	.	.	.

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,n} = \sum_{t=1}^{n} \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	5.0916	4.6755	4.0013	3.4834	3.0764
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
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
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
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
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
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
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
40	32.8347	27.3555	23.1148	19.7928	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
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
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250

kasneb

CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 22 May 2019. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) Finance managers of organisations make financial decisions such as investment decisions, financing decisions, dividend decisions as well as liquidity decisions.

In light of the above statement, explain three ways in which financial decisions could impact on firm's value. (6 marks)

(b) Company A seeks to acquire company B. Relevant data for the two companies is provided below:

	Company A	**Company B**
Pre-merger share price	Sh.80	Sh.48
Number of outstanding ordinary shares	30 million	20 million

As a result of the acquisition, the cost reduction synergy arising is Sh.180 million.

The deal is completed through a share transaction with an exchange ratio of 0.7

Required:
Calculate the gain of the merger to the following:

(i) To the target. (3 marks)

(ii) To the acquirer. (2 marks)

(c) Vibe Sounds Limited has tasked you to determine its optimal capital structure. The company's capital structure consists of debt and equity. In order to estimate the cost of debt, the company has produced the following table:

Debt-to-total asset ratio	**Equity-to-total asset ratio**	**Bond rating**	**Before tax cost of debt (%)**
0.10	0.90	AA	7.0
0.20	0.80	A	7.2
0.30	0.70	A	8.0
0.40	0.60	BB	8.8
0.50	0.50	B	9.6

Additional information:
1. The corporate tax rate is 30%.
2. The risk-free rate is 5% and the market risk premium is 6%.
3. The firm's unlevered beta is 1.0.

Required:
(i) The firm's optimal capital structure. (7 marks)

(ii) The company's weighted average cost of capital (WACC) based on the optimal capital structure in (c) (i) above. (2 marks)

(Total: 20 marks)

QUESTION TWO

(a) Examine two features of leveraged restructuring. (2 marks)

(b) Assess four motivations for mergers and acquisitions in the global markets. (4 marks)

(c) Fastline Printers Limited is considering investing in one of three mutually exclusive projects, X, Y and Z. The firm's cost of capital is 15% and the risk-free rate is 10%. The firm has gathered the basic cash flow and risk index data for each project, as shown in the following table:

	Project		
	X	Y	Z
Initial investment (Sh.)	15,000	11,000	19,000
Year		**Cash inflows (Sh.)**	
1	6,000	6,000	4,000
2	6,000	4,000	6,000
3	6,000	5,000	8,000
4	6,000	2,000	12,000
Risk index	1.80	1.00	0.60

Required:

(i) The net present value (NPV) of each project. Comment on the most preferable project. (3 marks)

(ii) The risk-adjusted discount rate (RADR) for each project. (3 marks)

(iii) The risk-adjusted NPV for each project. Comment on the most preferable project. (3 marks)

(iv) Compare your findings in (c) (i) and (c) (iii) above and advise on which project the firm should accept. (1 mark)

(d) Millenium Airlines is contemplating investment in a new passenger aircraft, code name Millenia. The airline chief financial officer has gathered the following estimates:

1. The cost of developing the Millenia is forecast at Sh.900 million, and this investment can be depreciated in 6 equal annual instalments.
2. Production of the plane is expected to take place at a steady annual rate over the following 6 years.
3. The average price of Millenia is expected to be Sh.15.5 million.
4. The fixed costs are forecasted at Sh.175 million per year.
5. The variable costs are forecasted at Sh.8.5 million per unit.
6. The corporate tax rate is 30% and the cost of capital is 10%.

Required:

Using the net present value (NPV) approach, determine the number of planes that Millenia Airline should sell in order to break-even. (4 marks)

(Total: 20 marks)

QUESTION THREE

(a) Global Industry Corporation has an equity capital of 12%, total equity of Sh.12 million, total debt of Sh.8 million and recorded sales of Sh.30 million last year.

Two scenarios relating to the company are provided below:

Senario 1

The company has a target assets-to-sales ratio of 0.667, a target net profit margin of 0.04, a target debt-to-equity ratio of 0.667, and a target earnings retention ratio of 0.75.

Senario 2

The company has established for next year a target assets-to-sales ratio of 0.62, a target net profit margin of 0.05 and a target debt-to-equity ratio of 0.80. The company wishes to pay an annual dividend of Sh.0.3 million and raise Sh.1 million in equity capital next year.

Required:

(i) The sustainable growth rate for Scenario 1. (2 marks)

(ii) The sustainable growth rate for Scenario 2. (2 marks)

(iii) Comment on the difference between the sustainable growth rates for the two scenarios in (a) (i) and (a) (ii) above. (2 marks)

(b) In relation to financial distress, argue three cases why firms could prefer to use formal bankruptcies to restructure. (3 marks)

(c) ABE Ltd. and BOO Ltd. are firms operating in the same industry and are considered to be in the same risk profile.

Each firm generates operating profit of Sh.25 million each year. The earnings are expected to remain constant each year in perpetuity.

The capital structures of both firms are given as follows:

	ABE Ltd. **Sh. "million"**	**BOO Ltd.** **Sh. "million"**
Equity (market value)	175	150
4% Debt (Trading at par)	-	100
	175	250

Additional information:

1. Both firms adopt a 100% payout ratio as their dividend policy.
2. Corporate tax rate applicable is 30%.

Required:

(i) Determine the weighted average cost of capital (WACC) for the two firms. (2 marks)

(ii) Advise Musa Mutembei who holds 5% of BOO Ltd.'s shares on the arbitrage opportunities available to him. (4 marks)

(d) Enkare Company Ltd. is considering undertaking an expansion programme that will increase the firm's turnover significantly.

The firm is contemplating raising Sh.30 million from external sources to finance this investment activity.

Two alternative financing options available to the firm are given as follows:

Option I

Issue new ordinary shares at par of Sh.20 each to raise the full amount.

Option II

Issue new ordinary shares at par of Sh.20 each to raise Sh.20 million and the remainder to be raised through the issue of new 14% debentures at par.

Corporation tax rate applicable is 30% and the firm's existing capital structure prior to raising the additional funds was as follows:

	Sh."000"
Ordinary share capital (Sh.20 each)	80,000
Reserves	10,000
12% Debt	10,000
	100,000

Required:

Compute the earnings before interest and tax (EBIT) and earnings per share (EPS) at the point of indifference in the firm's earnings under financing plan I and financing plan II above. (5 marks)

(Total: 20 marks)

QUESTION FOUR

(a) As the chief finance officer, CFO of Baobab Limited, you have received a letter from a major shareholder who needs information about the company's dividend policy. The shareholder is specifically wondering about the amount of dividend the company is likely to pay next year. You have not yet collected all the information about the expected dividend payment, but you do know the following:

1. The company follows a residual dividend policy.
2. The total capital budget for next year is likely to be one of three amounts depending on the results of capital budgeting studies that are currently underway. The capital expenditure amounts are Sh.2 million, Sh.3 million and Sh.4 million respectively.
3. The forecasted level of potential retained earnings next year is Sh.2 million.
4. The target or optimal capital structure is a debt ratio of 40%.

You have decided to respond by sending the shareholder the best information available to you through a letter.

Required:

(i) Explain the term "residual dividend policy". (2 marks)

(ii) Compute the amount of dividend and the dividend payment ratio for each of the three capital expenditure amounts. (5 marks)

(iii) Compare the amount of dividends computed in (a) (ii) above associated with each of the three capital expenditure amounts. (1 mark)

(b) The following information was extracted from the books of Ravella Publishing Limited as at 31 December 2018:

1.	Total assets	Sh.10,000,000.
2.	Earnings before interest and tax (EBIT)	Sh.2,000,000.
3.	Preference dividends	Sh.200,000.
4.	Corporation tax rate	30%.

In an effort to determine the optimal capital structure, the firm has assembled the following data:

Capital structure debt ratio (%)	Cost of debt, r_d (%)	Number of ordinary shares	Required rate of return, r_s (%)
0	0	200,000	12
15	8	170,000	13
30	9	140,000	14
45	12	110,000	16
60	15	80,000	20

Required:

(i) Calculate the earnings per share (EPS) for each level of indebtedness. (5 marks)

(ii) Price per share for each level of indebtedness using the results obtained in (b) (i) above. (5 marks)

(iii) Advise the management on the optimal capital structure. Justify your choice. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) (i) Highlight three determinants of a firm's liquidity position. (3 marks)

(ii) Given below are financial data extracts of Watamu Company Ltd. for the financial years ended 31 December:

	2017 Sh. "million"	2018 Sh. "million"
Sales	240	245
Inventory of finished goods	10	12
Stock of raw materials	15	20
Stock of work-in-progress	5	8
Cost of sales	94	95
Cost of production	60	90
Debtors	13	15
Creditors	14	16

Additional information:

1. The annual usage of raw materials for the year 2018 are estimated at Sh.235 million.
2. Assume all sales are on credit basis and 360 days in a year.

Required:

Compute the working capital operating cycle of the firm for the year 2018. (6 marks)

(b) Explain the following financial contracts as used in Islamic Finance:

(i) Musharaka. (1 mark)

(ii) Mudaraba. (1 mark)

(iii) Murabaha. (1 mark)

(iv) Ijara. (1 mark)

(c) Alpha Company, a small machine shop, is contemplating acquiring a new machine that costs Sh.80,000. The machine can be leased or purchased. The firm is in the 30% tax bracket, and its after-tax cost of debt is 9%. The terms of the lease and purchase plans are as follows:

Lease:
The firm would obtain a 5-year lease requiring annual end-of-year lease payments of Sh.19,800. All maintenance costs would be paid by the lessor, and insurance and other costs would be borne by the lessee. The lessee will exercise its option to purchase the asset for Sh.24,000 at termination of the lease.

Purchase:
The firm would finance the purchase of the machine with a 14%, 5-year loan requiring end-of-year instalment payments of Sh.23,302. The machine would be depreciated under modified accelerated cost recovery system (MACRS) using a 5-year recovery period as follows:

Recovery year	Percentage by recovery year (%)
1	20
2	32
3	19
4	12
5	12

The firm will pay Sh.2,000 per year for a service contract that covers all maintenance costs, insurance and other costs will be borne by the firm. The firm plans to keep the equipment and use it beyond its 5-year recovery period.

Required:

(i) The after-tax cash outflows under each alternative. (4 marks)

(ii) The present value of each after tax cash outflow, using the after-tax cost of debt. (2 marks)

(iii) Advise the management on which alternative is viable based on your results in (c) (ii) above. (1 mark)

(Total: 20 marks)

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Present Value of 1 Received at the End of n Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	3152	.2745	.2394	.1827	1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001		
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001	.	.	.	.
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001	.	.	.	.	.	.

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,t} = \sum_{t=1}^{n} \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	5.0916	4.6755	4.0013	3.4834	3.0764
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
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
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
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
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
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
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
40	32.8347	27.3555	23.1148	19.7928	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
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
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250

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CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 28 November 2018. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) (i) Explain the term "corporate governance" as applied in corporate finance. (2 marks)

(ii) Highlight four indicators of the presence of good corporate governance practices in listed companies in your country. (4 marks)

(b) Brian Olentutu, a financial analyst at Rich Consultancies has obtained the following cash flows on two mutually exclusive projects for Alego Limited:

Year	Project 1 Sh."000"	Project 2 Sh."000"
0	(750)	(2,100)
1	310	1,200
2	430	760
3	330	850

Both projects require an annual rate of return of 14%.

Required:

(i) The incremental internal rate of return (IRR) for each project. (3 marks)

(ii) Advise Alego Limited on which project to accept. (1 mark)

(c) Lewis Munga, a financial analyst for Sigma Capital Securities Ltd. has been assigned the task of estimating the costs of capital for Ruwenzori Ltd.

Lewis has estimated the following information for Ruwenzori Ltd:

1. The company has a beta of 1.35.
2. The appropriate market risk premium is 7%.
3. The current risk-free rate of return is 2%.
4. The current market price per share (MPS) is Sh.35.
5. The company currently pays a dividend of Sh.1 per share on Sh.4 per share earnings.
6. The company's return on equity (ROE) is 12%.
7. Floatation cost to issue new shares are approximately 10%.
8. Ruwenzori Ltd.'s preference shares pay an annual dividend of Sh.1.50 and each has a market price of Sh.18.75.
9. The company's cost of debt is 6%.
10. Ruwenzori Ltd.'s current capital structure is 25% debt, 5% preference shares and 70% equity.
11. Ruwenzori Ltd. has a tax rate of 30%.

Required:

(i) Cost of retained earnings. (2 marks)

(ii) Cost of new equity. (3 marks)

(iii) Cost of preference shares. (2 marks)

(iv) Weighted average cost of capital (WACC) assuming no new shares of equity need to be issued. (3 marks)

(Total: 20 marks)

QUESTION TWO

(a) (i) Analyse three essential elements of "sukuk" in relation to Islamic finance. (3 marks)

(ii) Islamic banking is a banking activity that is consistent with the principle of Sharia (Islamic law). However, Islamic banking continues to face some challenges.

With respect to the above statement, assess four challenges facing Islamic banking operations in your country. (4 marks)

(b) Horizon Limited forecasts that next year's sales will be Sh.6 million. Fixed operating costs are estimated to be Sh.800,000 and the variable cost ratio (that is, variable costs as a fraction of sales) is estimated to be 0.75. Fixed financing costs are estimated at Sh.200,000 each year. The company has 700,000 outstanding ordinary shares. Corporation tax rate is 30%.

Required:

(i) The forecasted earnings per share (EPS) for next year. (2 marks)

(ii) The company's EPS assuming that the sales were 10% above the projected Sh.6 million level provided. (2 marks)

(iii) Degrees of operating leverage, financial leverage and combined leverage based on the results obtained in (b) (i) and (b) (ii) above. (6 marks)

(iv) Interpret the results obtained in (b) (iii) above. (3 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain the term "bootstrapping" as used in mergers and acquisitions. (2 marks)

(b) (i) Distinguish between "drag on liquidity" and "pull on liquidity" as used in liquidity management. (2 marks)

(ii) Propose three causes of a drag on liquidity. (3 marks)

(c) Highlands Limited currently has an earnings per share (EPS) of Sh.2.00 but is determined to report an EPS of Sh.2.67 and therefore acquires Olympia Limited.

The relevant information is provided below:

	Highlands Limited	**Olympia Limited**
Earnings per share (EPS)	Sh.2.00	Sh.2.50
Market price per share (MPS)	Sh.40	Sh.25
Price to earnings (P/E) ratio	20	10
Number of shares	100,000	200,000
Total earnings	Sh.200,000	Sh.500,000
Total market value	Sh.4,000,000	Sh.5,000,000

Required:

The cost of the merger to Highlands Limited. (6 marks)

(d) Joppa Limited expects its cash flows to behave in a random manner as assumed by the Miller and Orr model.

It provides the following information:

1. Annual yield on marketable securities is 10%.
2. The fixed cost of effecting a marketable securities transaction is Sh.2,500.
3. The standard deviation of the change in daily cash balance is Sh.10,000.
4. The management expects to maintain a minimum cash balance of Sh.200,000.

Required:

The company's upper control limit using Miller and Orr model. (4 marks)

(e) Faridah enterprises sells on terms of 2/10 net 45 days. Annual sales are Sh.90 million. 30% of its customers pay on the 10^{th} day and take the discount. The accounts receivable average Sh.12 million.

Assume a 360 days year.

Required:

The average collection period (ACP) on non-discount sales. (3 marks)

(Total: 20 marks)

QUESTION FOUR

(a) In relation to capital structure, distinguish between "market timing theory" and "pecking order theory". (2 marks)

(b) Simba Limited is an all equity financed company with a cost of capital of 20%.

The company is considering the following one year investment projects:

Project	**1**	**2**	**3**	**4**	**5**
Initial cash outlay (Sh."000")	1,500	1,500	2,000	2,500	3,000
Annual cash flow (Sh."000")	1,800	2,100	2,400	3,000	3,200
Beta coefficient	0.4	0.8	1.0	1.5	2.0

The risk-free rate of return is 10% and probability distribution of the market return is given as follows:

Probability	**Market return (%)**
0.2	15
0.1	20
0.5	25
0.2	10

Required:

(i) The firm's overall beta coefficient. (2 marks)

(ii) Using suitable computations, advise Simba Limited on which project(s) to undertake. (6 marks)

(iii) The beta factor of the investment in the accepted projects. (2 marks)

(c) Lovely Electrical Products Company Limited (LEPCL), an unlevered firm, generates operating profit, that is earnings before interest and tax (EBIT) of Sh.20 million in each year. The cost of equity of unlevered firm is 10%.

The company is considering use of Sh.40 million, 5% debt to finance an expansion programme.

In an extensive study on investors, Alpha Associates, an external consulting firm has estimated that the marginal personal tax rates on ordinary shares income for all investors is 25%. Dividend and capital gains are both included in this income. The firm has also estimated that the marginal personal tax rate on debt income is 30%.

Corporate tax rate is 30%.

Required:

Using Modigliani and Miller's arguments, calculate:

(i) The current value of unlevered firm. (2 marks)

(ii) The current value of the firm with debt and its weighted average cost of capital (WACC) under assumption of corporate taxes but not personal income taxes. (4 marks)

(iii) The current value of the firm with debt and both corporate and personal income taxes. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Discuss three factors that could influence a firm's target debt-to-equity ratio. (6 marks)

(b) Evaluate three characteristics that leveraged buy out (LBO) lenders must consider in order to mitigate against risk of a significant value drop. (6 marks)

(c) Examine three types of indirect financial cost that could be faced by firms experiencing financial distress. (3 marks)

(d) Demco Limited is contemplating whether to replace an existing machine or to spend money overhauling it. The firm currently pays no taxes. The replacement machine costs Sh.90 million now and requires maintenance cost of Sh.10 million at the end of every year for eight years. At the end of eight years, it would have a salvage value of Sh.20 million and would be disposed. The existing machine requires an increasing amount of maintenance cost each year and its salvage value decreases each year as illustrated below:

Year	**Maintenance cost Sh."000"**	**Salvage value Sh."000"**
0	0	4,000
1	1,000	2,500
2	2,000	1,500
3	3,000	1,000
4	4,000	0

If the existing machine is sold in one year, the resale price will be Sh.2.5 million and Sh.1 million must be spent on maintenance during the year to keep it running. The maintenance costs are paid at the end of the year. The machine will last for four years before it ceases to operate. The firm has an opportunity cost of 15%.

Required:

Advise the management of Damco Limited on when to replace the machine. (5 marks)

(Total: 20 marks)

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Present Value of 1 Received at the End of n Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	.1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	.0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	.1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	.0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	.0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001	*	*
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001	*	*	*	*
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001	*	*	*	*	*	*

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,n} = \sum_{t=1}^{n} \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	5.0916	4.6755	4.0013	3.4834	3.0764
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
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
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
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
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
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
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
40	32.8347	27.3555	23.1148	19.7928	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
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
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250

kasneb

CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 23 May 2018. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) In the context of Islamic finance, summarise two differences between "Musharakah" and "Mudarabah". (2 marks)

(b) Explain five reasons why companies might decide to undertake a corporate restructuring exercise. (5 marks)

(c) Pafeka Ltd. is considering expanding its operations into digital music devices. Pafeka Ltd. anticipates to have an initial investment of Sh.1.3 million and, at best, an operational life of 3 years for the project. Pafeka Ltd.'s management team expects to have several probable outcomes over the life of the project, which it has labelled as either "success" or "failure". Accordingly, Pafeka Ltd. anticipates that in the first year of operations, there is a 65% chance of "success" with after-tax cash flow of Sh.800,000 or a 35% chance of failure with Sh.1,000 after-tax cash flow.

If the project "succeeds" in year 1, Pafeka Ltd. expects to have three probable outcomes regarding after-tax net cash flows in the second year. These outcomes are Sh.2.2 million, Sh.1.8 million or Sh.1.5 million with probabilities of 0.30, 0.50 and 0.20 respectively. In the third and final year of operation, the after-tax net cash flows are expected to be either Sh.35,000 or Sh.55,000 less than they were in year 2, with an equal chance of occurrence.

If on the other hand, the project "fails" in year 1, there is a 60% chance that it will produce after-tax net cash flow of only Sh.1,500 in year 2 and year 3. There is also a 40% chance that it will totally fail and Pafeka Ltd. will earn nothing in year 2, forcing it to get out of this line of business, terminating the project, and resulting in no after-tax net cash flows in year 3.

The opportunity cost of capital for Pafeka Ltd. is 10%.

Required:

(i) The project's expected net present value (NPV) using the decision tree criterion. (12 marks)

(ii) Advise Pafeka Ltd. on whether to undertake the project based on results obtained in (c) (i) above. (1 mark)

(Total: 20 marks)

QUESTION TWO

(a) In the context of mergers and acquisitions, argue three cases against each of the following valuation techniques which could be used by financial analysts to value a target company:

(i) Discounted cash flow analysis. (3 marks)

(ii) Comparable company analysis. (3 marks)

(b) Ishiara Ltd. and Tunya Ltd. are considering to have a friendly acquisition of Tunya Ltd. by Ishiara Ltd. The board of directors of both companies have informally agreed upon a transaction value of Sh.12.00 per share of Tunya Ltd. but are currently negotiating alternative forms of payment. Mate Ragwa, a CIFA graduate practising in the mergers and acquisitions sector has been consulted by Tunya Ltd. to advise on this acquisition. He is evaluating the following three alternative offers presented by Ishiara Ltd.:

- **Cash offer:** Ishiara Ltd. will pay Sh.12.00 per share of Tunya Ltd.
- **Share offer:** Ishiara Ltd. will give Tunya shareholders 0.8 shares of Ishiara Ltd. per share of Tunya Ltd.
- **Mixed offer:** Ishiara Ltd. will pay Sh.6.00 plus 0.4 shares of Ishiara Ltd. per share of Tunya Ltd.

Mate Ragwa estimates that the merger of the two companies will result in economies of scale with a net present value of Sh.90 million.

Additional information:

1. The pre-merger share price for Ishiara Ltd. and Tunya Ltd. are Sh.15.00 and Sh.10.00 respectively.
2. The number of shares outstanding for Ishiara Ltd. and Tunya Ltd. are 75 million and 30 million respectively.
3. Pre-merger market value of Ishiara Ltd. and Tunya Ltd. are Sh.1,125 million and Sh.300 million respectively.

Hint:

Target shareholders gain = Premium = $P_T - V_T$

Acquirers gain = $S - (P_T - V_T)$

Post-merger value of the combined firm, V_A. = $V_A + V_T + S - C$

Where: P_T = Price paid for the target company

V_T = Pre-merger value of the target company

S = Synergies created by the business combination

V_A = Pre-merger value of the acquirer

C = Cash paid to target shareholders

Required:

Using suitable computations, identify the offer that Mate Ragwa should recommend to Tunya Ltd.'s board of directors. (14 marks)

(Total: 20 marks)

QUESTION THREE

(a) (i) Highlight three objectives of short-term borrowing strategy in corporate finance. (3 marks)

(ii) Explain three factors that a corporate firm should consider as part of its short-term borrowing strategies. (3 marks)

(iii) Samuel Rotich, the Chief Finance Officer (CFO) of Manda Ltd. is tasked to select one of the following options as the best offer for borrowing Sh.5,000,000 for one month:

Option 1: Drawing down on a line of credit at a rate of 6.5 per cent per annum with a 0.5 percent commitment fee on the full amount with no compensation balances.

Option 2: A bankers acceptance at a rate of 6.75 per cent per annum, an all-inclusive rate.

Option 3: A commercial paper at a rate of 6.5 per cent per annum with a dealer's commission of 0.125 per cent and a backup line cost of 0.25 per cent, both of which would be assessed on the Sh.5,000,000 of commercial paper issued.

Required:

Advise Samuel Rotich on the form of borrowing that would result in the lowest cost of credit. (6 marks)

(b) Mavuno Ltd. has 10 million outstanding ordinary shares which are currently trading at Sh.15 per share and with an equity beta of 1.2. Mavuno Ltd. has additional 20,000 outstanding bonds with a 6% coupon rate payable semi-annually and due in 10 years. The bonds are rated BBB. Currently, the credit spread for BBB rated companies is 1.5% over equivalent maturity government debt. The current yield on 10-year government bond is 4%, compounded semi-annually. The risk-free rate is 2.5% and the market risk premium is 6.5%. The company has a 30% tax rate.

Required:

(i) Mavuno Ltd.'s weighted average cost of capital (WACC). (5 marks)

(ii) Mavuno Ltd.'s unlevered beta. (3 marks)

(Total: 20 marks)

QUESTION FOUR

(a) (i) Nobel prize-winning economists Franco Modigliani and Merton Miller argued the important theory that, given certain assumptions, a company's choice of capital structure does not affect its value (Modigliani and Miller, 1958).

Required:

With respect to the above statement, outline five assumptions of capital structure irrelevance proposition developed by Modigliani and Miller. (5 marks)

(ii) Discuss the "static trade-off theory of capital structure". (3 marks)

(b) Highlight three challenges that could be faced by principals confronted with agency problems. (3 marks)

(c) Nyamarende Ltd. has invested Sh.1,350,000 in a new publishing machine. The company would wish to estimate the number of years the plant should be operated.

The discount rate is 12%. The value of cash flows and sales to be generated from the plant are as follows:

Year	Cash inflows Sh."000"	Cash outflows Sh."000"	Sales value Sh."000"
1	1,710	990	855
2	1,620	1,080	630
3	1,530	1,170	405
4	1,440	1,260	180

Required:
Using the equivalent annual income approach, calculate:

(i) The optimal economic lifetime if the plant and equipment are not to be replaced. (4 marks)

(ii) The optimal economic lifetime if the plant and equipment are to be replaced in perpetuity. (5 marks)

(Total: 20 marks)

QUESTION FIVE

(a) With reference to a firm's dividend policy:

(i) Outline two assumptions of the Walter's Model. (2 marks)

(ii) Examine three reasons why a company might decide to issue a share repurchase. (3 marks)

(b) Alpha Limited expects with some degree of certainty to generate the following net income and to incur the following capital expenditure during the next five years:

Year:	1	2	3	4	5
Net income (Sh."000")	200	150	200	230	160
Capital expenditure (Sh."000")	100	150	300	150	200

Currently, the company has 100 million outstanding ordinary shares and pays Sh.1.00 dividend per share (DPS) annually. The company's target debt/equity ratio is 0.25.

Required:

(i) The dividend per share (DPS) and total external financing from the issue of debt and issue of new equity shares required in each year if dividend policy is treated as a residual decision. (3 marks)

(ii) DPS and the amount of debt and equity to be issued in each year if a dividend payout ratio of 50% is maintained. (3 marks)

(iii) The amount of debt and the new equity to be issued in each year if the present DPS is maintained. (2 marks)

(c) You are a financial analyst incharge of project evaluation. Seme Ltd., a newly established company has consulted you to analyse six projects which it is intending to undertake. The company's management insists on using the payback period as the criterion to evaluate its projects, though you differ with them. To convince the management of Seme Ltd. against using this criterion, you have provided them with the following table showing the cash flows, payback periods, and net present values (NPVs) for the six projects namely U, V, W, X, Y and Z. For all the projects, the required rate of return is 10 per cent.

Cash flows (Sh. "million")						
Year	**Project U**	**Project V**	**Project W**	**Project X**	**Project Y**	**Project Z**
0	−1,000	−1,000	−1,000	−1,000	−1,000	−1,000
1	1,000	100	400	500	400	500
2		200	300	500	400	500
3		300	200	500	400	10,000
4		400	100		400	
5		500	500		400	
Payback period	**1.0**	**4.0**	**4.0**	**2.0**	**2.5**	**2.0**
NPV	**−90.1**	**65.26**	**140.60**	**243.43**	**516.31**	**7,380.92**

Required:
Giving appropriate reasons, justify why the payback period criterion provides misleading information about the following:

(i) Project U. (1 mark)

(ii) Project V versus project W. (2 marks)

(iii) Project X versus project Y. (2 marks)

(iv) Project X versus project Z. (2 marks)

(Total: 20 marks)

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Present Value of 1 Received at the End of n Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	7353
2	.9803	.9612	.9426	.9246	.9070	.8900	8734	.8573	.8417	.8264	.7972	7695	.7561	.7432	.7182	.6944	.6504	.6104	5739	.5407
3	9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	6750	.6575	.6407	6086	.5787	.5245	.4768	.4348	3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	5921	.5718	.5523	.5158	.4823	.4230	.3725	3294	2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	5194	.4972	.4761	.4371	.4019	.3411	2910	2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	8963	8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	3971	.3555	3186	.2567	.2076	.1869	1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	3152	.2745	.2394	.1827	1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	1069	.0930	.0708	.0541	.0320	.0193	.0118	0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	1486	1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	0754	.0573	.0334	.0196	.0151	.0116	0070	.0042	.0016	.0006	.0002	0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	0460	0318	0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001		
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001				
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001						

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,n} = \sum_{t=1}^{n} \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	5.0916	4.6755	4.0013	3.4834	3.0764
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
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
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
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
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
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
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
40	32.8347	27.3555	23.1148	19.7928	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
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
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250

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CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 29 November 2017. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) Explain four limitations of corporate restructuring. (4 marks)

(b) The following financial information has been extracted from the books of Awendo Ltd. and Awasi Ltd. for the year 2016:

	Awendo Ltd. Sh. "000"	**Awasi Ltd. Sh. "000"**
Turnover	25,000	30,000
Fixed cost	7,500	15,000

Contribution to sales (C/S) ratio of the company is 50% and 30% for Awendo Ltd. and Awasi Ltd. respectively.

Required:

(i) The degree of operating leverage for each company. (4 marks)

(ii) Comment on the results in (b) (i) above. (1 mark)

(iii) Highlight four uses of operating leverage. (4 marks)

(c) The following information has been extracted from Borabu manufacturing company which deals with production of packaging materials at the export processing zone (EPZ):

	Sh. "000"
Average period of credit allowed by suppliers	480
Average trade receivables outstanding	4,400
Raw materials consumption	10,000
Cost of sales	10,500
Revenue for the year	16,000
Value of inventory maintained (average):	
Raw materials	320
Work-in-progress	350
Finished goods	260

The average period of credit allowed by suppliers is 16 days. Assume a year has 365 days.

Required:

(i) The length of operating cycle of Borabu Ltd. (3 marks)

(ii) Number of operating cycles per annum. (2 marks)

(iii) Working capital requirement of Borabu Ltd. (2 marks)

(Total: 20 marks)

QUESTION TWO

(a) Examine four corporate takeovers defensive tactics. (8 marks)

(b) Alpha Ltd. contemplates to acquire Beta Ltd. The following information is available:

	Alpha Ltd.	**Beta Ltd.**
Total current earnings	Sh.50 million	Sh.20 million
Number of outstanding shares	20 million	10 million
Market price per share	Sh.30	Sh.20

Required:

(i) The maximum exchange ratio acceptable to the shareholders of Alpha Ltd. assuming that the price-to-earnings (P/E) ratio of the combined entity is 12 and that there is no synergy gain. (3 marks)

(ii) The maximum exchange ratio acceptable to the shareholders of Beta Ltd. assuming that the price-to-earnings (P/E) ratio of the combined entity is 11 and that there is a synergy benefit of 5%. (3 marks)

(c) Ilezo Ltd. has issued 8% convertible bonds redeemable in 5 years' time. The convertible bonds are currently quoted at Sh.82 per Sh.100 nominal value. The bonds can be converted into 25 shares in 5 years' time. The share market price is currently Sh.3.50 and is expected to grow at a rate of 3% per annum. The tax rate is 30%.

Required:

The cost of convertible bonds for Ilezo Ltd. (6 marks)

(Total: 20 marks)

QUESTION THREE

(a) Discuss three reasons why investors might be willing to pay a premium for shares of a company with a stable dividend policy. (6 marks)

(b) Empire Ltd., an ungeared company, earned a pre-tax accounting profit of Sh.30 million in the financial year just ended. Replacement investment will match last year's depreciation of Sh.2 million. Both are fully tax-allowable.

Additional information:

1. Corporate tax is payable at a rate of 30%.
2. Empire Ltd. operates a 50% dividend payout policy and has previously issued 100 million shares with a par value of Sh.0.25 each.
3. Empire Ltd. shareholders require a return of 15% per annum.
4. The company holds Sh.15 million cash balance.

Required:

The market price per share of Empire Ltd. Assuming the shares are traded:

(i) Cum-dividend. (3 marks)

(ii) Ex-dividend. (1 mark)

(c) Muhoroni Millers is considering the following independent, average risk investment projects:

Project	**Size of project (Sh. Million)**	**Project internal rate of return, IRR (%)**
V	1.0	12.0
W	1.2	11.5
X	1.2	11.0
Y	1.2	10.5
Z	1.0	10.0

The company has a target capital structure consisting of 50% debt and 50% equity. Its after-tax cost of debt is 8%, its cost of equity is estimated to be 13.5% and its net income is estimated to be Sh.2.5 million.

Required:

The dividend payout ratio given that the company follows a residual dividend policy. (4 marks)

(d) Wasini Ltd. encounters significant uncertainty with its sales volume and price in its primary product. The firm relies on scenario analysis in order to determine an expected net present value (NPV) which it then uses in its budget. The base-case, worst-case and best-case scenarios together with their respective probabilities are as follows:

Scenario	Probability of outcome	Unit sales volume	Sales price (Sh.)	Expected net present value (NPV) (Sh.)
Worst-case	0.30	6,000	3,600	–6,000
Base-case	0.50	10,000	4,200	13,000
Best-case	0.20	13,000	4,400	28,000

Required:
The coefficient of variation of the net present value. (6 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Describe two types of agency conflicts that could affect the dividend payout policy of a corporate firm. (4 marks)

(b) (i) Highlight three factors outside the control of the firm that could affect its cost of capital. (3 marks)

(ii) Muruguru Ltd.'s weighted average cost of capital (WACC) is 11% and its corporate tax rate is 35%. The company's pre-tax cost of debt is 10% and its debt-equity ratio is 3:5. The risk-free rate is 8% and the risk market premium is 7%.

Required:
The beta of the company's equity. (3 marks)

(c) Masinga enterprises Ltd. (MEL) is considering going private through a leveraged buyout (LBO) by management. The management currently owns 21% of the 5 million outstanding shares. The market price per share is Sh.20 and it is felt that a 40% premium over the present price would be necessary to entice public shareholders to tender their shares in a cash offer. The management intends to keep its shares and obtain a senior debt equal to 80% of the funds necessary to complete the buyout. The remaining 20% will come from junior subordinated debentures. The terms of the senior debt are 2% above the prime rate with principal reductions of 20% on the initial loan at the end of each of the next five years. The junior subordinated debentures bear a 13% interest rate and must be retired at the end of six years with a single balloon payment. The debentures have warrants attached that enable the holders to purchase 30% of the stock at the end of the sixth year. The management estimates that earnings before interest and taxes (EBIT) will be Sh.25 million per year. The company will make capital expenditures in amounts equal to its depreciation. The prime rate is expected to be 10% over the next five years.

Required:
The minimum annual earnings before interest and taxes (EBIT) necessary to service the debt. (5 marks)

(d) A project to upgrade a computer software is estimated to cost Sh.1,000,000. Its expected cash flow at the end of year t is Sh.400,000. Thereafter, it is expected to decrease annually by Sh.20,000. The project has an economic life of 6 years. The certainty factor of the project is given as $\alpha = 1 - 0.05t$, where t is the n^{th} year. The risk-free rate of return is 10%.

Required:
The net present value (NPV) of the project using certainty equivalent approach. (5 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Discuss five factors that have contributed to the growth of Islamic finance industry in your country. (10 marks)

(b) Jalopy Motors Ltd. (JML) is intending to undertake a Sh.50 million expansion project. Over the years, the firm's board of directors has adhered to a policy of rejecting any investment proposal that would jeopardise the market value of the firm's ordinary shares.

A preliminary analysis projected a rate of return on the new project of approximately 14% before taxes. JML has made a tentative agreement with AOM Insurance Ltd. to finance the project through a private placement of the Sh.50 million in the form of 10% notes.

The firm's ordinary shares have been historically selling at 10 times after-tax earnings. The current earnings per share (EPS) is Sh.2.70 and the firm faces a 30% corporate income tax rate. The following information is also available:

	Sh. "000"
Long term debt (8%)	10,000
Ordinary shares (10,000,000 shares outstanding, Sh.2 par value)	20,000
Paid in capital, in excess of par	70,000
Retained earnings	100,000
Total capitalisation	200,000

Required:

(i) Anthony Mutembei, one of the members of JML's board of directors argued that the firm should immediately place the notes, since the before-tax marginal cost of capital for the project is only 10% (the interest on the notes), and indications are that the project before tax rate of return would be greater than 10%.

Discuss whether Anthony Mutembei's argument is valid. (3 marks)

(ii) Determine the level of annual earnings that the new project must generate in order to meet the director's objective assuming JML's earnings multiple declines to 9. (7 marks)

(Total: 20 marks)

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Present Value of 1 Received at the End of n Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	.1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	.0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	.1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	.0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	.0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001		
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001				
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001						

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,t} = \sum_{t=1}^{n} \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	5.0916	4.6755	4.0013	3.4834	3.0764
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
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
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
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
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
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
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
40	32.8347	27.3555	23.1148	19.7928	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
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
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250

KASNEB

CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 24 May 2017. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) Examine five sources of conflict of interest that could arise between shareholders and bondholders of a corporate firm. (5 marks)

(b) In relation to short-term financing, discuss three causes of overtrading. (3 marks)

(c) Tambaki Ltd., a listed company, intends to expand its business operations by investing in two projects; A and B. project A will be financed through a floating rate note while project B will be financed through equity finance.

The following is the company's financial data before it undertook the expansion programme for the year ended 31 March 2017:

	Sh. "Million"
Ordinary shares (par value Sh.0.50)	225
Retained earnings	801
	1026
14% loan notes	75
9% bank loan	250
	325

Additional information:

1. The 14% loan notes are redeemable at par in five years time. These loan notes have a current ex-interest market price of Sh.110 per Sh.100 loan note.
2. The corporate tax rate is 30%.
3. The current market price per share of the company's ordinary shares is Sh.3.76.
4. The company's equity beta is estimated to be 1.2.
5. The systematic risk of debt may be assumed to be zero. The risk free rate is 7% and market return is 13.5%.
6. The estimated equity beta of Tambaki Ltd's main competitor in the same industry is 1.8 while its capital gearing is 60% equity and 40% debt by market values.

Required:

(i) The current weighted average cost of capital (WACC) of Tambaki Ltd. (6 marks)

(ii) Determine the risk adjusted cost of capital that Tambaki Ltd. should use as the discount rate for its proposed investment in the new venture. (5 marks)

(iii) Highlight one assumption that should be made in (c)(ii) above. (1 mark)

(Total: 20 marks)

QUESTION TWO

(a) Evaluate three advantages and three disadvantages of using comparable transaction analysis when valuing a target company. (6 marks)

(b) Kemgen Ltd. has provided you with the following information:

	Sh.
Profit before interest and taxes	300,000
Less interest on debentures at 12%	60,000
Earnings before taxes	240,000
Less taxes at 30%	72,000
Net income	168,000

Earnings per share (EPS)	Sh. 4.2
Market price per share (MPS)	Sh. 30
Number of equity shares (Sh.10 each)	40,000
Price to earnings (P/E) ratio	7.14

Additional information:

1. The company has undistributed reserves of Sh.600,000.
2. The company requires Sh.200,000 for expansion. This amount will earn interest at the same rate as funds already employed.
3. You are informed that a debt to equity ratio of higher than 35% will push the price to earnings (P/E) ratio down to 5.71 and raise the interest rate on additional amount borrowed to 14%.

Required:

(i) The probable price of the share assuming the additional funds are raised as debt. (4 marks)

(ii) The probable price of the share assuming the additional funds are raised by issuing equity shares. (4 marks)

(c) Kinoru Ltd. is considering a capital project requiring a cash outlay of Sh.15 million. The project is expected to generate a net cash inflow of Sh.3.75 million for the next 6 years. The opportunity cost of capital is 18%. Kinoru Ltd. can raise a term loan of Sh.10 million for the project. The term loan will carry an interest rate of 16% and would be repayable in 5 equal annual installments with the first installment falling due at the end of the second year. The balance of the amount required for the project could be raised by issuing equity. The issue cost of equity is expected to be 8%. The corporate tax rate for Kinoru Ltd. is 30%.

Required:

Advise the management of Kinoru Ltd. on the validity of the project using the adjusted present value (APV) method. (6 marks)

(Total: 20 marks)

QUESTION THREE

(a) Outline three guidelines that could be adopted by companies to effectively manage their accounts payable. (3 marks)

(b) Describe three components of net agency costs of equity. (3 marks)

(c) Wagai Ltd., a firm in the alcohol manufacturing industry intends to acquire Karemo Ltd., a beer distributing firm. In a press release, Wagai Ltd. outlines the terms of the merger, which specify that Karemo Ltd.'s shareholders will each receive 0.90 shares of Wagai Ltd. owned. Karemo Ltd. has 1 million shares outstanding. On the day of merger announcement, Wagai Ltd.'s share closed at Sh.20.00 and Karemo Ltd.'s share closed at Sh.15.00. Samuel Omondi is an individual investor who owns 500 shares of Karemo Ltd.

Required:

(i) The cost of the acquisition for Karemo Ltd. based on the current share price. (2 marks)

(ii) The number and value of shares of Karemo Ltd. that Samuel Omondi would receive based on the current share price. (2 marks)

(d) Kinyaga Ltd. is considering to acquire Kianjogu Ltd. Kinyaga Ltd. expects to receive net cash flow of Sh. 9 million from Kianjogu Ltd. in the first year. Kianjogu Ltd. is expected to have earnings before interest and tax (EBIT) of Sh.25 million and interest expense of Sh.5 million in the second year. Kianjogu Ltd. will require reinvestment of an additional 40 percent of its net income to finance its future growth. The applicable marginal tax rate for Kianjogu Ltd. is 30%. After the second year, the net cash flow from Kianjogu Ltd. to Kinyaga Ltd. will grow at a constant rate of 4 percent per annum. The firm has established that 18 percent is the appropriate equity discount rate to apply to this merger. All cash flows occur at the end of the year. The acquisition of Kianjogu Ltd. will cost Kinyaga Ltd. Sh.45 million.

Required:

The value of the acquisition. (6 marks)

(e) Kalokol Ltd. is considering the following five independent projects:

Project	Cost "Sh."	Internal rate of return (IRR)(%)
A	200,000	20
B	600,000	15
C	400,000	12
D	400,000	11
E	400,000	10

Additional information:

1. The company has a target capital structure consisting of 40% debt and 60% equity.
2. The company can issue bonds with a yield-to-maturity (YTM) of 11%.
3. The company has retained earnings and the ordinary shares has a market price of Sh.42 per share.
4. The floatation costs associated with issuing new equity are Sh.2 per share.
5. Kalokol Ltd.'s earnings are expected to continue to grow at a rate of 6% per annum.
6. Next year's dividend is forecasted to be Sh.4.
7. The corporate tax rate is 30%.

Required:

The optimal capital budget for Kalokol Ltd. (4 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Outline four features of Islamic Insurance (takaful). (4 marks)

(b) In relation to capital structure of a firm, analyse the following types of risk:

(i) Business risk. (1 mark)

(ii) Sales risk. (1 mark)

(iii) Operating risk. (1 mark)

(iv) Financial risk. (1 mark)

(c) Engineers at Bidii Ltd., a motor vehicle manufacturing company have invented a driverless car. The company is ready for pilot production and test marketing. This is expected to cost Sh.20 million and will take six months. The company's management believes that there is 70% chance that the pilot production and test marketing will be successful. In case of success, Bidii Ltd. could build a plant costing Sh.150 million. The plant will generate an annual cash flow of Sh.30 million for 20 years if the demand is high, or an annual cash flow of Sh.20 million if the demand is low. High demand has a probability of 0.6 and low demand has a probability of 0.4. The interest rate is 12%.

Required:

Using decision tree analysis, evaluate the optimal course of action. (7 marks)

(d) Mwaluganje Ltd. is concerned on whether antitrust regulators would consider its acquisition of Koromojo Ltd. due to antitrust violation. The market in which the two companies operate consists of eight competitors. The largest company has a 25% market share. Mwaluganje Ltd. has the second largest market share of 20%. Each of the five competitors including Koromojo Ltd. has a market share of 10%. The smallest company has a market share of 5%.

Required:

Assuming Mwaluganje Ltd. and Koromojo Ltd. attempt to merge:

(i) Determine the increase in the Herfindahl-Hirschman Index (HHI). (3 marks)

(ii) Determine the probable action by the antitrust regulators of the merger announcement. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Discuss four principles of capital budgeting. (4 marks)

(b) Describe four factors that might affect a company's dividend policy. (4 marks)

(c) (i) Explain four factors that could lead to financial distress for a company. (4 marks)

(ii) Uranga Ltd. wishes to determine an acceptable growth rate in sales. While the firm intends to expand, it does not wish to use any external funding to support such an expansion due to the high prevailing interest rates in the market. As a financial analyst, you gather the following data relating to the firm:

Profit margin	10%
Capital intensity ratio	1.2
Dividend payout ratio	50%
Current sales	Sh.100,000
Spontaneous liabilities	Sh.10,000

Required:
The maximum growth rate that Uranga Ltd. could sustain without requiring additional external funding.
(5 marks)

(d) The finance department of Kimulot Ltd. has gathered the following information:

The carrying cost per unit of inventory is Sh.10.
The fixed cost per order is Sh.20.
The number of units required per year is 30,000.
The variable cost per unit ordered is Sh.2.
The purchase cost price per unit is Sh.30.
Assume that an year has 365 days:

Required:
Determine the time gap between the two orders. (3 marks)
(Total: 20 marks)

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Present Value of 1 Received at the End of n Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	.1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	.0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	.1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	.0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	.0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001	.	.
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001	.	.	.	.
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001	.	.	.	.	.	.

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,n} = \sum_{t=1}^{n} \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	5.0916	4.6755	4.0013	3.4834	3.0764
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
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
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
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
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
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
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
40	32.8347	27.3555	23.1148	19.7928	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
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
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250