Okan Co

The following **exhibits** provide information relevant to the question:

1. Introduction – about Okan Co.
2. Funding for projects Alpha and Beta.
3. Projects Alpha and Beta.
4. Economic risk and risk categories.

This information should be used to answer the question **requirements**.

Exhibits

1. Introduction

Okan Co, a large listed company located in Yasailand whose currency is the Y$, manufactures engines and engine parts. It is considering whether or not to invest in one of two new four-year projects: Project Alpha or Project Beta. Details of both projects are given separately. Previously, Okan Co has used relevant risk-adjusted discount rates to calculate the net present value (NPV) of projects. However, the finance director believes that calculating adjusted present values (APV) of projects would be more appropriate. Okan Co wants to base its decision on which project to invest in, on the returns generated by the projects, the projects' risk as measured by their project durations, and important non-financial aspects. Both projects are due to commence in six months' time.

2. Funding for projects Alpha and Beta

Project Alpha or Project Beta will each require the same amount of initial funding of Y$50 million.

Proceeds from the sale of a factory based in Europe in six months' time, for Euro (€)10 million, will provide part of the funding and the balance will be financed by debt borrowing.

Okan Co expects to hedge the €10 million using either forward markets or money markets. The following information is available on these markets:

Foreign exchange rates

	Y$/€1
Spot	2.5210–2.5862
Six months forward	2.5462–2.6121

Bank interest rates

	Investing	*Borrowing*
Yasailand	2.40%	5.00%
Eurozone	1.05%	2.20%

The balance of funding raised by domestic debt borrowing will be through a four-year subsidised loan on which interest is payable at 2.1%, although Okan Co's normal borrowing rate is 5%.

3. Projects Alpha and Beta

Project Alpha details

Project Alpha's base case NPV and APV, in six months' time when the project will commence, should be estimated using the following information.

The sales revenues and production costs related to Project Alpha in six months' time, before any annual price or cost increases, are estimated as follows:

Year	*1*	*2*	*3*	*4*
Sales revenue (Y$ 000s)	15,750	28,350	47,250	23,100
Production cost (Y$ 000s)	6,120	10,710	21,420	8,160

It is expected that the sales price will increase at an annual inflation rate of 10%. Domestic production costs are likely to increase at Yasailand's annual inflation rate.

In addition to the above, components will be imported from the UK (currency £), at the following current cost:

Year	*1*	*2*	*3*	*4*
Component costs (£000s)	1,200	1,800	3,700	1,400

The costs of components from the UK are fixed and not subject to inflation.

The funds of Y$50 million for Project Alpha will be used to purchase plant and equipment needed for manufacturing purposes. Tax allowable depreciation is available on the value of the plant and equipment at 25% per year on a reducing balance basis, with a balancing allowance or charge applicable at the end of the project. The plant and equipment is expected to be sold for Y$10 million (post-inflation) at the end of the project.

At the start of every year, Project Alpha will require working capital. In the first year this will be 10% of the estimated year 1 sales revenue. In subsequent years, the project will require an increase or a reduction in working capital of 15% for every $1 increase or decrease in sales revenue respectively. The working capital is expected to be fully released when Project Alpha ceases.

The expected spot exchange rate between the Y$ and the £, in six months' time, is expected to be Y$3.03 per £1. The annual inflation rates are currently 2% in the UK and 4% in Yasailand. It can be assumed that these inflation rates will not change for the foreseeable future.

The cost of capital for appraising the base case net present value of Project Alpha is 10%. Okan Co pays tax at an annual rate of 20%. Tax is payable in the same year as the profits it is based on. Okan Co makes sufficient profits from its other activities to take advantage of any tax loss relief.

Project Beta details

Given below are Project Beta's base case present values, based on the project start date in six months' time, discounted at the project's relevant risk-adjusted all-equity financed discount rate:

Year	*1*	*2*	*3*	*4*
Present values (Y$ 000s)	8,450	19,360	22,340	4,950

Project Beta's duration has been calculated as 2.43 years, based on its base case present values.

4. Economic risk and risk categories

One of Okan Co's subsidiary companies in Yasailand, which produces and sells all its products domestically, has still found that it is exposed to economic risk (economic exposure). The directors of the subsidiary believe that this is because Yasailand's government has maintained comparatively higher interest rates, even though the inflation in Yasailand is now under control.

Okan Co categorises the risks inherent in its projects according to the severity of their impact and the frequency of their occurrence, as follows: (i) severe and frequent, (ii) not severe but frequent, (iii) severe but not frequent, and (iv) neither severe nor frequent.

Requirements (50 marks)

(a) Prepare a report for the board of directors (BoD) of Okan Co which:

(i) Estimates the minimum amount of debt borrowing Okan Co would require;

(4 marks)

(ii) Estimates:

Project Alpha's and Project Beta's base case NPV, in six months' time, before considering the financing side effects, (12 marks)

Project Alpha's and Project Beta's APV, in six months' time, and

(6 marks)

Project Alpha's duration based on its base case present values of cash flows; (2 marks)

(iii) Evaluates and justifies which project Okan Co should choose, basing the decision on the factors Okan Co considers to be important. The evaluation should include a discussion of the assumptions made.

(8 marks)

(b) Discuss why Okan Co's subsidiary company may be exposed to economic risk (economic exposure) and how it may be managed. (4 marks)

(c) Discuss how each category of risk, in terms of severity and frequency, may be managed. (4 marks)

Professional marks will be awarded for the demonstration of skill in communication, analysis and evaluation, scepticism and commercial acumen in your answer. (10 marks)

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Kodiak Co

The following **exhibits** provide information relevant to the question:

1. Kodiak Co.
2. Financial statements.
3. Notes and further information.

This information should be used to answer the question **requirements.**

Exhibits

1. Kodiak Co

Kodiak Co is a small software design business established four years ago. The company is owned by three directors who have relied upon external accounting services in the past. The company has grown quickly and the directors have appointed you as a financial consultant to advise on the value of the company's equity.

2. Financial statements

The directors have limited liability and the bank loan is secured against the general assets of the business. The directors have no outstanding guarantees on the company's debt.

The company's latest statement of profit or loss and the extracted balances from the latest statement of financial position are as follows:

Profit or loss	$000	**Financial position**	$000
Revenue	5,000	Opening non-current assets	1,200
Cost of sales	3,000	Additions	66
Gross profit	2,000	Non-current assets (cost)	1,266
Other operating costs	1,877	Accumulated depreciation	367
Operating profit	123	Carrying amount	899
Interest on loan	74	Net current assets	270
Profit before tax	49	Loan	(990)
Income tax expense	15	Net assets employed	179
Profit for the period	34		

During the current year:

included in other operating costs in the statement of profit or loss.

2. The investment in net working capital is expected to increase in line with the growth in gross profit.
3. Other operating costs consisted of:

	$000
Variable component at 15% of sales	750
Fixed costs	1,000
Depreciation on non-current assets	127

4. Revenue and variable costs are projected to grow at 9% per year and fixed costs are projected to grow at 6% per year.
5. The company pays interest on its outstanding loan of 7.5% per year and incurs tax on its profits at 30%, payable in the following year. The company does not pay dividends.
6. The net current assets reported in the statement of financial position contain $50,000 of cash.

3. Notes and further information.

One of your first tasks is to prepare for the directors a forward cash flow projection for three years and to value the company on the basis of its expected free cash flow to equity. In discussion with them you note the following:

- The company will not dispose of any of its non-current assets but will increase its investment in new non-current assets by 20% per year. The company's depreciation policy matches the write off allowable for tax purposes. This straight-line write off policy is not likely to change.
- The directors will not take a dividend for the next three years but will then review the position taking into account the company's sustainable cash flow at that time.
- The level of the loan will be maintained at $990,000 and, on the basis of the forward yield curve, interest rates are not expected to change.
- The directors have set a target rate of return on their equity of 10% per year which they believe fairly represents the opportunity cost of their invested funds.

Requirements (25 marks)

(a)	**Prepare a three-year cash flow forecast on the basis described above highlighting the free cash flow to equity in each year.**	(10 marks)
(b)	**Estimate the value of the equity based upon the expected free cash flow to equity and a terminal value based upon a sustainable growth rate of 3% per year thereafter.**	(5 marks)
(c)	**Advise the directors on the assumptions and the uncertainties within your valuation.**	(5 marks)

Professional marks will be awarded for the demonstration of skill in analysis and evaluation, scepticism and commercial acumen in your answer. (5 marks)

Note: This question has a higher proportion of technical marks available for calculations than should be expected in the current exam.

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Cigno Co

Introduction

The following **exhibits** provide information relevant to the question:

1. Cigno Co.
2. Anatra Co – an acquisition target.
3. Proposed acquisition.
4. Post-acquisition cost of capital.
5. Post-acquisition benefits.

This information should be used to answer the question **requirements.**

Exhibits

1. Cigno Co

Cigno Co is a large pharmaceutical company, involved in the research and development (R&D) of medicines and other healthcare products. Over the past few years, Cigno Co has been finding it increasingly difficult to develop new medical products. In response to this, it has followed a strategy of acquiring smaller pharmaceutical companies which already have successful products in the market and/or have products in development which look very promising for the future. It has mainly done this without having to resort to major cost-cutting and has therefore avoided large-scale redundancies. This has meant that not only has Cigno Co performed reasonably well on the stock market, but it has also maintained a high level of corporate reputation.

2. Anatra Co

Anatra Co is involved in two business areas: the first area involves the R&D of medical products, and the second area involves the manufacture of medical and dental equipment. Until recently, Anatra Co's financial performance was falling, but about three years ago a new chief executive officer (CEO) was appointed and she started to turn the company around. Recently, the company has developed and marketed a range of new medical products, and is in the process of developing a range of cancer-fighting medicines. This has resulted in good performance on the stock market, but many analysts believe that its shares are still trading below their true value. Anatra Co's CEO is of the opinion that the turnaround in the company's fortunes makes it particularly vulnerable to a takeover threat, and she is thinking of defence strategies that the company could undertake to prevent such a threat. In particular, she was thinking of disposing of some of the company's assets and focussing on its core business.

3. Proposed acquisition

Cigno Co is of the opinion that Anatra Co is being held back from achieving its true potential by its equipment manufacturing business and that by separating the two business areas, corporate value can be increased. As a result, it is considering the possibility of acquiring Anatra Co, unbundling the manufacturing business, and then absorbing Anatra Co's R&D business. Cigno Co estimates that it

Financial information: Anatra Co

Given below are extracts from Anatra Co's latest statement of profit or loss and statement of financial position for the year ended 30 November 20X8:

	$m
Revenue	21,400
Profit before interest and tax (PBIT)	3,210
Interest	720
Pre-tax profit	2,490

	$m
Non-current liabilities	9,000
Share capital ($0.50)	3,500
Reserves	4,520

Anatra Co's share of revenue and profits between the two business areas are as follows:

	Medical products R&D	*Equipment manufacturing*
Share of revenue and profit	70%	30%

4. Post-acquisition cost of capital

Cigno Co is of the opinion that as a result of acquiring Anatra Co, the cost of capital will be based on the equity beta and the cost of debt of the combined company. The asset beta of the combined company is the individual companies' asset betas weighted in proportion of the individual companies' market value of equity. Cigno Co has a market value debt to equity ratio of 40:60 and an equity beta of 1.10.

It can be assumed that the combined companies will also have a market value debt to equity ratio of 40:60.

Currently, Cigno Co's total company value (market values of debt and equity) is $60,000 million and Anatra Co's asset beta is 0.68.

Additional information

- The estimate of the risk-free rate of return is 4.3% and of the market risk premium is 7%.
- The corporation tax rate applicable to all companies is 22%.
- Anatra Co's current share price is $3 per share, and it can be assumed that the book value and the market value of its debt are equivalent.
- The pre-tax cost of debt of the combined company is expected to be 6.0%.

Important note

Cigno Co's board of directors (BoD) does not require any discussion or computations of currency movements or exposure in this report. All calculations are to be presented in $ millions. The BoD also does not expect any discussion or computations relating to the financing of the acquisition in this report, other than the information provided above on the estimation of the cost of capital.

5. Post-acquisition benefits

Cigno Co estimates that following the acquisition and unbundling of the manufacturing business, Anatra Co's future revenue and

interest and tax is expected to be 17.25% of revenue, for the next four years. It can be assumed that the current tax allowable depreciation will remain equivalent to the amount of investment needed to maintain the current level of operations, but that the company will require an additional investment in assets of $0.40 for every $1 increase in revenue.

After the four years, the annual growth rate of the company's free cash flows is expected to be 3% for the foreseeable future.

Anatra Co's unbundled equipment manufacturing business is expected to be divested through a sell-off, although other options such as a management buy-in were also considered. The value of the sell-off will be based on the medical and dental equipment manufacturing industry. Cigno Co has estimated that Anatra Co's manufacturing business should be valued at a factor of 1.2 times higher than the industry's average price-to-earnings ratio. Currently the industry's average earnings-per-share is $0.30 and the average share price is $2.40.

Possible additional post-acquisition benefits

Cigno Co estimates that it could achieve further cash flow benefits following the acquisition of Anatra Co, if it undertakes a limited business re-organisation. There is some duplication of the R&D work conducted by Cigno Co and Anatra Co, and the costs related to this duplication could be saved if Cigno Co closes some of its own operations. However, it would mean that many redundancies would have to be made including employees who have worked in Cigno Co for many years. Anatra Co's employees are considered to be better qualified in these areas of duplication, and would therefore not be made redundant.

Cigno Co could also move its headquarters to the country where Anatra Co is based and thereby potentially save a significant amount of tax, other than corporation tax. However, this would mean a loss of revenue for the government where Cigno Co is based.

The company is concerned about how the government and the people of the country where it is based might react to these issues. It has had a long and beneficial relationship with the country and with the country's people.

Cigno Co has estimated that it would save $1,600m in after-tax free cash flows to the company at the end of the first year as a result of these post-acquisition benefits. These cash flows would increase by 4% per annum for the next three years.

Requirements (50 marks)

(a) Distinguish between a divestment through a sell-off and a management buy-in as forms of unbundling. (4 marks)

(b) Prepare a report for the board of directors (BoD) of Cigno Co which:

(i) Estimates the value attributable to Cigno Co's shareholders from the acquisition of Anatra Co before taking into account the cash benefits of potential tax savings and redundancies, and then after taking these into account; (18 marks)

estimations made and methods used; (8 marks)

(iii) Advises the BoD on the key factors it should consider in relation to the redundancies and potential tax savings. (4 marks)

(c) Discuss whether the defence strategy suggested by Anatra Co's CEO of disposing assets is feasible. (6 marks)

Professional marks will be awarded for the demonstration of skill in communication, analysis and evaluation, scepticism and commercial acumen in your answer. (10 marks)

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Coeden Co

The following **exhibits** provide information relevant to the question:

1. Coeden Co.
2. Financial information.
3. Other information.
4. Demerger alternative.

This information should be used to answer the question **requirements.**

Exhibits

1. Coeden Co

Coeden Co is a listed company operating in the hospitality and leisure industry. Coeden Co's board of directors met recently to discuss a new strategy for the business. The proposal put forward was to sell all the hotel properties that Coeden Co owns and rent them back on a long-term rental agreement. Coeden Co would then focus solely on the provision of hotel services at these properties under its popular brand name. The proposal stated that the funds raised from the sale of the hotel properties would be used to pay off 70% of the outstanding non-current liabilities and the remaining funds would be retained for future investments.

The board of directors are of the opinion that reducing the level of debt in Coeden Co will reduce the company's risk and therefore its cost of capital. If the proposal is undertaken and Coeden Co focuses exclusively on the provision of hotel services, it can be assumed that the current market value of equity will remain unchanged after implementing the proposal.

2. Financial information

Extract from the most recent statement of financial position:

	$000
Non-current assets (re-valued recently)	42,560
Current assets	26,840
Total assets	69,400
Share capital ($0.25 per share)	3,250
Reserves	21,780
Non-current liabilities (5.2% redeemable bonds)	42,000
Current liabilities	2,370
Total equity and liabilities	69,400

Coeden Co's latest free cash flow to equity of $2,600,000 was estimated after taking into account taxation, interest and reinvestment in assets to continue with the current level of business. It can be

depreciation. Over the past few years, Coeden Co has consistently used 40% of its free cash flow to equity on new investments while distributing the remaining 60%. The market value of equity calculated on the basis of the free cash flow to equity model provides a reasonable estimate of the current market value of Coeden Co.

The bonds are redeemable at nominal value in three years and pay the coupon on an annual basis. Although the bonds are not traded, it is estimated that Coeden Co's current debt credit rating is BBB but would improve to A+ if the non-current liabilities are reduced by 70%.

3. Other information

Coeden Co's current equity beta is 1.1 and it can be assumed that debt beta is 0. The risk-free rate is estimated to be 4% and the market risk premium is estimated to be 6%.

An asset beta for companies offering just hotel services has been calculated to be 0.75.

Coeden Co's corporation tax rate is 20%. The three-year borrowing credit spread on A+ rated bonds is 60 basis points and 90 basis points on BBB rated bonds, over the risk-free rate of interest.

4. Demerger alternative

As an alternative to selling the hotel properties, the board of directors is considering a demerger of the hotel services and a separate property company which would own the hotel properties. The property company would take over 70% of Coeden Co's long-term debt and pay Coeden Co cash for the balance of the property value.

Requirements (25 marks)

(a) Calculate, and comment on, Coeden Co's cost of equity and weighted average cost of capital before and after implementing the proposal. Briefly explain any assumptions made. (15 marks)

(b) Explain what a demerger is and assess the possible benefits and drawbacks of pursuing the demerger option as opposed to selling the hotel properties. (5 marks)

Professional marks will be awarded for the demonstration of skill in analysis and evaluation, scepticism and commercial acumen in your answer. (5 mark)

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Westparley Co

Introduction

Westparley Co is a listed retailer, mainly selling food and small household goods. It has outperformed its competitors over the last few years as a result of providing high quality products at reasonable prices, and also having a stronger presence online. It has kept a control on costs, partly by avoiding operating large stores on expensive city centre sites. Instead, it has had smaller stores on the edge of cities and towns, and a limited number of larger stores on convenient out-of-town sites, aiming at customers who want their journeys to shops to be quick. One of its advertising slogans has been: “We are where you want us to be.”

Westparley Co’s share price has recently performed better than most companies in the retail sector generally. Share prices in the retail sector have been relatively low as a result of poor results due to high competition, large fixed cost base and high interest rates. The exception has been shares in retailers specialising in computer and high-technology goods. These shares appear to have benefited from a boom generally in share prices of high-technology companies. Some analysts believe share prices of many companies in the high-technology sector are significantly higher than a rational analysis of their future prospects would indicate.

Matravers Co

Westparley Co has identified the listed retailer Matravers Co as an acquisition target, because it believes that Matravers Co’s shares are currently undervalued and part of Matravers Co’s operations would be a good strategic fit for Westparley Co.

Matravers Co operates two types of store:

Matravers Home mainly sells larger household items and home furnishings. These types of retailer have performed particularly badly recently and one major competitor of Matravers Home has just gone out of business. Matravers Home operates a number of city centre sites but has a much higher proportion of out-of-town sites than its competitors.

Matravers Tech sells computers and mobile phones in much smaller outlets than those of Matravers Home.

Extracts from Matravers Co’s latest annual report are given below:

	$m
Pre-tax profit	1,950
Long-term loan	6,500
Share capital ($1 shares)	5,000

The share of pre-tax profit between Matravers Home and Matravers Tech was 80:20.

The current market value of Matravers Co’s shares is $12,500m and its debt is currently trading at its book value. Westparley Co believes

Westparley Co intends to take advantage of the current values attributed to businesses such as Matravers Tech by selling this part of Matravers Co at the relevant sector price earnings ratio of 18, rather than a forecast estimate of Matravers Tech's present value of future free cash flows of $4,500m.

The company tax rate for both companies is 28% per year.

Post-acquisition cost of capital

The post-acquisition cost of capital of the combined company will be based on its cost of equity and cost of debt. The asset beta post-acquisition can be assumed to be both companies' asset betas weighted in proportion to their current market value of equity.

Westparley Co has 4,000 million $1 shares in issue, currently trading at $8.50. It has $26,000m debt in issue, currently trading at $105 per $100 nominal value. Its equity beta is 1.02.

Matravers Co's asset beta is 0.75. The current market value of Matravers Co's shares is $12,500m and its long-term loan is currently trading at its book value of $6,500m.

The risk-free rate of return is estimated to be 3.5% and the market risk premium is estimated to be 8%.

The pre-tax cost of debt of the combined company is expected to be 9.8%. It can be assumed that the debt:equity ratio of the combined company will be the same as Westparley Co's current debt:equity ratio in market values.

The company tax rate for both companies is 28% per year.

Plans for Matravers Co

The offer for Matravers Co will be a cash offer. Any funding required for this offer will be a mixture of debt and equity. Although for the purposes of the calculation it has been assumed that the overall mix of debt and equity will remain the same, the directors are considering various plans for funding the purchase which could result in a change in Westparley Co's gearing.

As soon as it acquires all of Matravers Co's share capital, Westparley Co would sell Matravers Tech as it does not fit in with Westparley Co's strategic plans and Westparley Co wishes to take advantage of the large values currently attributed to high-technology businesses. Westparley Co would then close Matravers Home's worst-performing city centre stores. It anticipates the loss of returns from these stores would be partly compensated by higher online sales by Matravers Co, generated by increased investment in its online operations. The remaining city centre stores and all out-of-town stores would start selling the food and household items currently sold in Westparley Co's stores, and Westparley Co believes that this would increase profits from those stores.

Westparley Co also feels that reorganising Matravers Co's administrative functions and using increased power as a larger retailer can lead to synergies after the acquisition.

Post-acquisition details

Once Matravers Tech has been sold, Westparley Co estimates that sales revenue from the Matravers Home stores which remain open, together with the online sales from its home business, will be $43,260m in the first year post-acquisition, and this figure is expected to grow by 3% per year in years 2 to 4.

Tax allowable depreciation is assumed to be equivalent to the amount of investment needed to maintain existing operations. However, an investment in assets (including working capital) will be required of $630m in year 1. In years 2 to 4, investment in assets each year will be $0.50 of every $1 increase in sales revenue.

After four years, the annual growth rate of free cash flows is expected to be 2% for the foreseeable future.

As well as the free cash flows from Matravers Co, Westparley Co expects that post-tax synergies will arise from its planned reorganisation of Matravers Co as follows in the next three years:

Year	*1*	*2*	*3*
	$m	$m	$m
Free cash flows	700	750	780

The current market value of Matravers Co's shares is $12,500m and its debt is currently trading at its book value of $6,500m.

Required:

(a) Discuss the behavioural factors which may have led to businesses such as Matravers Tech being valued highly. (6 marks)

(b) Prepare a report for the board of directors of Westparley Co which:

(i) compares the additional value which Westparley Co believes can be generated from the sale of Matravers Tech based on the P/E ratio, with that of the projected present value of its future free cash flows; (4 marks)

(ii) calculates the weighted average cost of capital for the combined company; (6 marks)

(iii) estimates the total value which Westparley Co's shareholders will gain from the acquisition of Matravers Co; and (10 marks)

(iv) assesses the strategic and financial value to Westparley Co of the acquisition, including a discussion of the estimations and assumptions made. (12 marks)

Professional marks will be awarded in part (b) for the format, structure and presentation of the report. (4 marks)

(c) Discuss the factors which may determine how the offer for Matravers Co will be financed and hence the level of gearing which Westparley Co will have. (8 marks)

(50 marks)

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