Q1.

Joshua Co

Joshua Co is a listed leading fashion retailer with stores based in flagship retail centres nationwide. For many years, Joshua Co has been highly popular but its financial performance has suffered recently due to the problems associated with its online operation. These problems are causing concern for the company's institutional shareholders.Online rivals have emerged in recent years and are quickly reducing Joshua Co's market share. These companies have also successfully diversified into other areas such as household furnishings once they have established a well-known brand. Joshua Co recently attempted to acquire one of these online rivals, Fraser Co, but neither company's shareholders approved the deal on the grounds that it was unlikely to create value.Following a series of profit warnings, there has been ongoing media speculation that Joshua Co is attracting takeover interest. There has been no approach made so far but Joshua Co's directors are concerned about the implications for their future in the company. Joshua Co's chairman would like to discuss defence strategies at an upcoming board meeting, particularly the suggestion that Joshua Co could defend itself against a takeover by improving its own takeover offer for Fraser Co. The rationale for this suggestion is that it would be much more difficult to acquire an enlarged Joshua Co. In addition, this would also introduce a risk diversification benefit into Joshua Co's operations.

Acquisition of Fraser Co.

Joshua Co's funding options have deteriorated significantly since last year's cash offer for Fraser Co was rejected. It no longer has the cash reserves required to fund another cash offer and the shareholders are unlikely to agree to a rights issue so soon after the last attempt, which also ended in failure. In addition, Joshua Co's gearing significantly exceeds the industry average and the company is close to breaching one of its bank covenants. The CEO has therefore suggested a new offer is made for Fraser Co based on a share-for-share exchange. The following information is available, including brief extracts from both companies' most recent annual reports:

	Joshua Co	Fraser Co
Market value of equity	\$102m	\$56m
Asset beta	0·85	1·18
Dividend	\$2·7m	\$3·2m
Ordinary shares (\$1)	\$40m	\$10m

Cost of capital

Joshua Co's post-acquisition asset beta can be assumed to be a weighted average of both companies' pre-acquisition asset betas, weighted in proportion to their market value of equity. The board intends to maintain the company's existing debt:equity ratio of 30:70, based on market value, and expects the pre-tax credit spread on Joshua Co's debt to remain at 410 basis points above the risk free rate if Fraser Co is acquired.

Post-acquisition cash flows

According to the finance director's forecast, Joshua Co will earn profit before interest and tax (PBIT) of \$27·2m in the first year after the acquisition, growing by 5% per year in the following three years.It is assumed that tax allowable depreciation will be equivalent to the amount of investment needed to maintain existing operations. However, an investment in assets of $2·7m will be required in year one and then $2·13 per $1 increase in PBIT from years two to four. It is expected that the acquisition will create after-tax synergies worth $9·2m per year in each of the first four years. From year five onwards, the company's free cash flows are expected to grow annually by 3% for the foreseeable future.

Share-for-share exchange and post-acquisition dividend

The CEO's proposal for a share-for-share exchange will involve one Fraser Co share being exchanged for three Joshua Co shares. Based on last year's negotiations, the board believes it has a good understanding of Fraser Co's expectations. You have therefore been asked to incorporate a minimum acquisition premium of 35% into your analysis, which is the same premium which was requested last year. Fraser Co's founder and majority shareholder is unlikely to approve an acquisition offer on terms which would lead to a reduction in the annual dividend. However, Joshua Co's debt includes a covenant restricting dividend payments to 25% of each year's free cash flow to the firm. The board has therefore also asked for an evaluation of the impact of the proposed terms on next year's forecast post-acquisition dividend for both companies' shareholders.

Further information

Both companies pay corporation tax at 18%. The risk free rate of return is 3·7% and the market risk premium is 8·1%.

Share Buyback

As yet, there have been no formal takeover offers for Joshua Co. However, the board wants to be fully prepared in case this changes, particularly if their own takeover of Fraser Co is not viable. The directors have been attending a series of seminars on alternative takeover defences and would like to discuss their findings at next week's board meeting. The topics to be discussed include the possibility of using a share buyback as a defence tactic. This would involve Joshua Co buying and then cancelling some of its own shares. Joshua Co's CEO has asked for advice on the credibility of such a defence and would like to discuss the effect on the company's earnings per share, cost of capital and share price amongst other issues, in the context of the company's liquidity problems and a further bank covenant which has imposed a restriction on what assets can be disposed of.

Requirements:

(a) Discuss the agency problems created by Joshua Co's proposed takeover of Fraser Co as a defence and risk diversification strategy and explain how these could be mitigated. (5 marks)

(b) Prepare a report for the board of directors of Joshua Co that:

(i) Calculates the post-acquisition weighted average cost of capital; (5 marks)

(ii) Estimates the additional value to shareholders from Joshua Co's proposed acquisition of Fraser Co;

(11 marks)

(iii) Compares shareholder wealth before and after the acquisition by calculating the percentage change in equity value and next year's dividend income for both companies' shareholders; (6 marks)

(iv) Advises the board of any concerns either company's shareholders may have with the acquisition and discusses the validity of the assumptions made in evaluating the proposal in (b)(i), (ii) and (iii) above;

(8 marks)

(v) Discusses the credibility of the CEO's alternative suggestion to use a share buyback as a takeover defence and advises whether or not this is a feasible strategy for Joshua Co. (5 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)

Q2.

<u>Oxwick Co's acquisition of Ludham Co</u>

Oxwick Co is a listed, fruit-flavoured soft drinks manufacturer which has increased its profits significantly over the last few years and is looking to expand. Oxwick Co's directors have identified Ludham Co as a potential target. Ludham Co is an unlisted, family-owned company. It produces a premium brand of soft drink, the Ludorchard brand. Oxwick Co's directors are aware that the Ludorchard brand is stocked in a number of retail outlets where Oxwick Co's drinks are not stocked.

Assuming Ludham Co is acquired, Oxwick Co's directors believe that Oxwick Co will be able to spend more on marketing the Ludorchard brand than Ludham Co has been able to spend, increasing sales significantly. It will also achieve other synergies which will increase value and justify the acquisition. However, one of Oxwick Co's non-executive directors believes that the acquisition will be of no value to Oxwick Co because it does not reduce risk. He feels that Oxwick Co's shareholders want the company to make acquisitions which reduce risk and therefore increase company value. He believes that Oxwick Co should therefore consider acquiring companies with different product streams, or one or more of its suppliers.

<u>Financial data - both companies</u>

Ludham Co's profits have remained static during the past three years. As it is an unlisted company, there is no information available about Ludham Co's forecast cash flows.

Oxwick Co has 200 million shares in issue and its current market price per share is $11·52. Its most recent post-tax earnings were $128m.Ludham Co has 80 million shares in issue. Its most recent post-tax earnings were $52m.

Assume that Ludham Co's current valuation can be obtained by using Oxwick Co's P/E ratio, reduced by 40% to reflect Ludham Co's unlisted status.

The post-tax cash flows for the first year of the combined company are estimated to be $270m. These are expected to increase by the following % each year as a result of sales volume increases, synergies and inflation:

Year	2	3	4
	12%	10%	7%

Tax allowable depreciation is assumed to be equivalent to the amount of investment needed to maintain existing operations. However, an additional investment in assets (including working capital) will be required of $28m at the end of year 1. In years 2 to 4, additional investment in assets at the end of each year will be $0·80 for every $1 increase in post-tax cash flows in that year.

After four years, the annual growth rate of free cash flows is expected to be 5% for the foreseeable future. It is assumed that there will be no additional capital investment from year 5 onwards.

The combined company's cost of capital is estimated to be 12%. It is expected that the combined company's debt to equity level will be maintained at 20:80, in market value terms, after the acquisition has taken place.

The directors of Oxwick Co assume that the shareholders of Ludham Co will require a 15% premium on the fair value of their shares. To satisfy their own shareholders, Oxwick Co's directors believe that the acquisition should result in a minimum gain to their shareholders of at least 15%.

Requirements:

(a) Discuss the non-executive director's views in relation to Oxwick Co's acquisition strategy and the acquisition of Ludham Co. (5 marks)

(b) Estimate, using the data available:

• the equity value of the combination of Oxwick Co and Ludham Co; and

• the % gain in value which would be gained by Oxwick Co's shareholders from the acquisition, concluding whether it will fulfil the expected shareholder requirement of a 15% gain in value. (10 marks)

(c) Discuss the assumptions made in the calculations in part (b). (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)

Q3.

Blackbosca Co

Blackbosca Co is the market-leading online food delivery company in Turkey. The company was set up five years ago and is already highly profitable, exceeding all the founder's revenue targets by a wide margin every quarter. The founder is the company's majority shareholder and chief executive officer (CEO) and he would like to repeat this success in new territories, particularly in locations where the market has been slow to develop so far. The board is due to meet next week to review a potential expansion into the country of Üskistan.

Üskistan expansion project

Üskistan's currency is the Üskistani dollar ($) and today's exchange rate is 3·82 Turkish lira (TL) per $1.

Based on Blackbosca Co's experience in its home country, the board believes that revenue growth in the early stages of a new market is likely to be non-linear. The company has therefore hired a consultant who has modelled the project's revenues based on an exponential mathematical function. The function takes into account inputs such as the potential size of the market, the rate at which new customers are likely to adopt the new technology as well as the reaction from competitors.

Blackbosca Co's consultant estimates the project will earn a pre-tax contribution margin of 40% throughout the project's four-year life and has provided the following inflation-adjusted cash flow estimates for the new project in Üskistan:

Year	1	2	3	4
	$m	$m	$m	$m
Revenue	110·0	138·0	463·0	1,160·0
Pre-tax contribution (40% of revenue)	44·0	55·2	185·2	464·0
Fixed operating costs	74	93	116	145

The directors plan to discuss the reliability of the model underpinning these cash flow estimates at the next board meeting. The CEO's main concerns are that the model is untested and that a mathematical equation is too much of a simplification to accurately model a complex scenario. He is also questioning the validity of the estimated fixed operating costs.

Blackbosca Co's finance director has provided additional information relevant to the project in Üskistan. If the project is approved, Blackbosca Co will need to make an immediate investment of $220m in plant and machinery, which is not expected to be recoverable at the end of the project's life. Tax allowable depreciation is available on a straight-line basis at an annual rate of 25% on cost.

In addition, Blackbosca Co will receive a royalty payment from the investment in Üskistan, payable annually. The first year's royalty payment is fixed at $2·5m but this will increase annually at a rate of 5% in subsequent years.

The annual rate of corporation tax in Üskistan is 20%, compared to 15% in Turkey. In both countries, taxes are payable in the year the liability arises. The tax authority in Üskistan allows companies to carry forward tax losses and offset them against future trading profits. A bi-lateral tax treaty exists between the two countries. This treaty permits Blackbosca Co to offset overseas tax against any domestic tax, which is incurred as a result of its overseas earnings.

The project will also require an investment in working capital at the start of each year, equivalent to 2% of that year's expected pre-tax contribution. It is expected that working capital will be released back in full at the end of the project. Blackbosca Co's board intends to extract positive free cash flows as dividends at the earliest possible opportunity.

Annual inflation is expected to remain constant at 3% in Üskistan and 12% in Turkey for the duration of the project.

Predicted exchange rates using purchasing power parity are as follows:

Year	0	1	2	3	4
TL/$	3·82	4·15	4·51	4·90	5·33

Blackbosca Co's cost of capital is 16%.

Business and financial risks

Although Üskistan is a developing country, it is an attractive investment opportunity because it has excellent infrastructure and important cultural links with Turkey, including a shared language. The tax treatment of delivery riders is also favourable to Blackbosca Co since Üskistan allows delivery companies to treat their riders as self-employed workers rather than employees. This benefits Blackbosca Co since it can avoid paying employer benefit contributions for its self-employed delivery riders. This will significantly reduce the project's costs. Several years ago, the tax authority in Üskistan challenged the tax status of delivery riders as self-employed workers but recently lost its case in Üskistan's Supreme Court.

Although there have been frequent changes of government in Üskistan's recent history, the current government appears stable following a change in the country's constitution. The government also recently removed a restriction on dividend remittances, which had been in place for many years. However, the new government has inherited a high level of government debt, which is creating pressure on government expenditure.

Due to its developing country status, the online food delivery market is only just beginning to emerge in Üskistan and therefore presents excellent growth prospects. Blackbosca Co's finance director plans to pursue the same business model in Üskistan, relying on financial institutions to process customer payments online.

Requirements:

(a) Evaluate the suitability of the investment proposal in Üskistan, including in your analysis a discussion of the chief executive officer's concerns about the consultant's cash flow estimates. (13 marks)

Note: there are up to 5 marks available for discussion.

(b) Discuss the financial and business risks which Blackbosca Co will be exposed to if the project in Üskistan is approved. (7 marks)

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