Q1.

Exhibit 1

The nation of Azgard has implemented protectionist policies since gaining its independence just over 20 years ago, making it challenging for global corporations to conduct business there. The World Trade Organization (WTO) and Azgard have recently held discussions, and it now appears likely that Azgard will drastically scale back its restrictive measures.

Encouraged by these discussions, Cygnus Co, a company producing packaged foods, is considering a project to set up a manufacturing base in Azgard to sellits goods there and in other regional countries nearby. An initial investigation costing $100,000 established that Azgard had appropriate manufacturing facilities, adequate transport links and a reasonably skilled but cheap work force. The investigation concluded that, if the protectionist measures were reduced, then the demand potential for Cygnus Co's products looked promising. It is also felt that an early entry into Azgard would give Cygnus Co an advantage over itscompetitors for a period of five years, after which the current project will cease, due to the development of new advanced manufacturing processes.

Exhibit 2

Azgard's currency, the Peso (AP), is currently trading at AP75 per $1. Setting up the manufacturing base in Azgard will require an initial investment of AP2,500 million immediately, to cover the cost of land and buildings (AP500 million) and machinery (AP2,000 million). Tax allowable depreciation is available on the machinery on a straight-line basis andhas no sale value. The market value of the land and buildings in five years' time is estimated to be AP1,100 . This land and building amount isinclusive of any tax impact.

Cygnus Co will require AP250 million for working capital immediately. It is not expected that any further injections of working capital will be required for the five years. When the project ceases at the end of the fifth year, the working capital will be released back to Cygnus Co.

Exhibit 3

Production of the packaged foods will take place in batches of product mixes. These batches will then be sold to supermarket chains, wholesalers and distributors in Azgard and its neighbouring countries, who will repackage them to their individual requirements. All sales will be in AP. The estimated average number of batches produced and sold each year is given below:

Year	*1*	*2*	*3*	*4*	*5*
Batches produced and sold	10,000	15,000	30,000	26,000	15,000

The current selling price for each batch is estimated to be AP115,200. The costs related to producing and selling each batch are currently estimated to be AP46,500. In addition to these costs, a number of products will need a special packaging material which Cygnus Co will send to Azgard. Currently the cost of the special packaging material is $200 per batch. Training and development costs, related to the production of the batches, are estimated to be 80% of the production and selling costs (excluding the cost of the special packaging) in the first year, before falling to 20% of these costs (excluding the cost of the

special packaging) in the second year, and then nil for the remaining years. It is expected that the costs relating to the production and sale of each batch will increase annually by 10% but the selling price and the special packaging costs will only increase by 5% every year.

The current annual corporation tax rate in Azgard is 25% and Cygnus Co pays annual corporation tax at a rate of 20% in the country where it is based. Both countries' taxes are payable in the year that the tax liability arises. A bi-lateral tax treaty exists between the two countries which permits offset of overseas tax against any tax liabilities Cygnus Co incurs on overseas earnings.

Exhibit 4

The risk-adjusted cost of capital applicable to the project on $-based cash flows is 12%, which is considerably higher than the return on short-dated $ treasury bills of 4%. The current rate of inflation in Azgard is 8%, and in the country where Cygnus Co is based, it is 2%. It can be assumed that these inflation rates will not change for the foreseeable future. All net cash flows from the project will be remitted back to Cygnus Co at the end of each year.Cygnus Co's finance director is of the opinion that there are many uncertainties surrounding the project and has assessed that the cash flows can vary by a standard deviation of as much as 35% because of these uncertainties.

Recently Galaxy Co offered Cygnus Co the option to sell the entire project to Galaxy Co for $35 million at the start of year three. Cygnus Co will make the decision of whether or not to sell the project at the end of year two.

Required:

(a) Explain possible strategies Cygnus Co could adopt to avoid a block on dividend remittances. (4 marks)

(b) Discuss the role of the World Trade Organisation (WTO) and the possible benefits and drawbacks to Azgard of reducing protectionist measures. (6 marks)

(c) Prepare an evaluative report for the Board of Directors of Cygnus Co which addresses the following parts and recommends an appropriate course of action:

(i) An estimate of the value of the project before considering Galaxy Co's offer. Show all relevant calculations (12 marks)

(ii) An estimate of the value of the project taking into account Galaxy Co's offer. Show all relevant calculations (6 marks)

(iii) A discussion of the assumptions made in parts (i) and (ii) above and the additional business risks which Cygnus Co should consider before it makes the final decision whether or not to undertake the project. (12 marks)

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

Q2.

Exhibit 1

Descript Co is a food manufacturer with a portfolio of well-known brands. The founding directors retain asignificant minority shareholding in the company and continue to serve on the board following a successful listing ten years ago. After obtaining the listing, Descript Co's gearing ratio increased significantly above the sector average as the result of a poorly timed expansion strategy, mainly financed by debt. Earnings became increasingly volatile and the debt burden triggered a decline in the company's financial performance. The board responded to these problems five years ago by pursuing a debt-reduction turnaround strategy, which has been financed by a series of rights issues and asset disposals.

Even though this strategy successfully reduced the gearing ratio, which is now equal to the industry average, the share price remains depressed due to competitive pressures within the industry. The company's credit rating has recently been downgraded once again. Descript Co's chief executive officer (CEO) has identified an opportunity to relocate the manufacturing plant and develop a state-of-the-art automated production line, which will reduce the underlying cost base and be a source of competitive advantage.

Exhibit 2

Project information

Descript Co's finance director has prepared estimates of the free cash flows generated by the project, based on a four-year time horizon:

Year	0	1	2	3	4
	$m	**$m**	**$m**	**$m**	**$m**
Free cash flows		20.9	20.6	28.7	104.6

The investment cost is $120m, which Descript Co's CEO proposes to finance as follows:

	$m
Disposal of existing manufacturing plant	20
Rights issue	10
Subsidised loan, 3·5% annual interest rate	40
Bank loan, 9% annual interest rate	50
Total	120

The bank loan is repayable in equal annual installments over four years. Issue costs of 2% are payable on gross external financing and are not allowable for corporation tax. Issue costs are payable out of available cash reserves. The finance director has asked you to ignore underwriting costs relating to the rights issue.

Additional information

Descript Co's current equity beta is 1·418 and the debt:equity ratio is 1:5 based on market values. The risk free rate is 3% and the market risk premium is 9%. The CEO expects the business risk of the company to remain unchanged as a result of the investment.

Corporation tax is payable at an annual rate of20%.

Exhibit 3

Further information on project finance

he board discussed the financing of the project at a recent meeting. Descript Co's corporate bankers have already approved the funding decision for the $50m bank loan but the finance director is concerned about the following capital providers:

External shareholders

The last rights issue took place 18 months ago and there were two others in the previous five years. A group of shareholders have formed an action group to exert pressure on the board for more drastic change. This included a campaign to replace the CEO, which was only narrowly avoided when the shareholders voted at the most recent annual general meeting. The CEO is optimistic about the prospects of a rights issue but suggested underwriting the issue to reduce the risk of failure.

Founding directors

The production and marketing directors indicated they would not be able to take up their rights due to personal financial commitments butwould otherwise provide full support for the new strategy.

Subsidised loan provider

The government funds the subsidised loan programme to boost job creation in the economically deprived northern region of the country, which is where the new automated manufacturing plant is to be located. Although the loan has yet to be approved, the chief executive is optimistic about the outcome of their application. One feature of the loan programme is that it is open to applicants without assets available to provide security although other restrictions may be imposed. This is relevant to Descript Co since surplus assets were disposed of during the turnaround strategy and those which remain will be used to secure the new bank loan.

Required:

(a) Calculate the adjusted present value of the investment and recommend whether the project should be accepted or not. (12 marks)

(b) Discuss the factors the capital providers, excluding the bank, will consider before deciding whether or not to approve the funding decision for Descript Co's investment in a new manufacturing plant. (8 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

Exhibit 1

WecathlonCo is a large listed company with many autonomous departments operating as investment centres. It sets investment limits for each department based on a three-year cycle. Projects selected by departments would have to fall within the investment limits set for each of the three years. All departments would be required to maintain a capital investment monitoring system, and report on their findings annually to Wecathlon Co's board of directors.The Sports department is considering the following five investment projects with three years of initial investment expenditure, followed by several years of positive cash inflows. The department's initial investment expenditure limits are $9,000,000, $6,000,000 and $5,000,000 for years one, two and three respectively. None of the projects can be deferred and all projects can be scaled down but not scaled up:

Investment required at start of year

Project	*Year one (Immediately)*	*Year two*	*Year three*	*Project net present value*
Project01	$4,000,000	$1,100,000	$2,400,000	$464,000
Project02	$800,000	$2,800,000	$3,200,000	$244,000
Project03	$3,200,000	$3,562,000	$0	$352,000
Project04	$3,900,000	$0	$200,000	$320,000
Project05	$2,500,000	$1,200,000	$1,400,000	Not provided

Exhibit 2

Project05 project's annual operating cash flows commence at the end of year four and last for a period of 15 years. The project generates annual sales of 300,000 units at a selling price of $14 per unit and incurs total annual relevant costs of $3,230,000. Although the costs and units sold of the project can be predicted with a fair degree of certainty, there is considerable uncertainty about the unit selling price. The department uses a required rate of return of 11% for its projects, and inflation can be ignored.

The Sports department's managing director is of the opinion that all projects which return a positive net present value should be accepted and does not understand the reason(s) why Wecathlon Co imposes capital rationing on its departments. Furthermore, she is not sure why maintaining a capital investment monitoring system would be beneficial to the company.

Exhibit 3

Category 1: Total Final Value
$1,184,409

Category 2: Adjustable Final Values
Project01: 0.958
Project02: 0.407
Project03: 0.732
Project04: 0.000
Project05: 1.000

Category 3:

Constraints Utilised	*Slack*
Year one: $9,000,000	Year one: $0
Year two: $6,000,000	Year two: $0
Year three: $5,000,000	Year three: $0

Required:

(a)

(i) Calculate the net present value of project Project05. Calculate and comment on what percentage fall in the selling price would need to occur before the net present value falls to zero. (5 marks)

(ii) Formulate an appropriate capital rationing model, based on the above investment limits, that maximises the net present value for department Sports. Finding a solution for the model is not required.

(3 marks)

(b) Assume the output in Exhibit 3 is produced when the capital rationing model in part (a) is solved: Explain the figures produced in each of the three output categories. (4 marks)

(c) Provide a brief response to the managing director's opinions by:

(i) Explaining why Wecathlon Co may want to impose capital rationing on its departments.

(2 marks)

(ii) Explaining the features of a capital investment monitoring system and discussing the benefits of maintaining such a system. (3 marks)

(d) Explain the different methods of dealing with a capital rationing problem, in the circumstances where:

(i) Capital is rationed in a single period, and

(ii) Capital is rationed in several periods.

(3 marks)

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