QUESTIONS

SECTION A:

Question 1

Novoroast plc, a UK company, manufactures microwave ovens which it exports to several countries, as well as supplying the home market. One of Novoroast's export markets is a South American country, which has recently imposed a 40% tariff on imports of microwaves in order to protect its local 'infant' microwave industry. The imposition of this tariff means that Novoroast's products are no longer competitive in the South American country's market but the government there is, however, willing to assist companies wishing to undertake direct investment locally. The government offers a 10% grant towards the purchase of plant and equipment, and a three-year tax holiday on earnings. Corporate tax after the three-year period would be paid at the rate of 25% in the year that the taxable cash flow arises.

Novoroast wishes to evaluate whether to invest in a manufacturing subsidiary in South America, or to pull out of the market altogether.

The total cost of an investment in South America is 155 million pesos (at current exchange rates), comprising:

* 50 million pesos for land and buildings
* 60 million pesos for plant and machinery (all of which would be required almost immediately)
* 45 million pesos for working capital

20 million pesos of the working capital will be required immediately and 25 million pesos at the end of the first year of operation. Working capital needs are expected to increase in line with local inflation.

The company's planning horizon is five years.

Plant and machinery is expected to be depreciated (tax allowable) on a straight-line basis over five years, and is expected to have negligible realisable value at the end of five years. Land and buildings are expected to appreciate in value in line with the level of inflation in the South American country.

Production and sales of microwaves are expected to be 8,000 units in the first year at an initial price of 1,450 pesos per unit, 60,000 units in the second year, and 120,000 units per year for the remainder of the planning horizon.

In order to control the level of inflation, legislation exists in the South American country to restrict retail price rises of manufactured goods to 10% per year.

Fixed costs and local variable costs, which for the first year of operation are 12 million pesos and 600 pesos per unit respectively, are expected to increase by the previous year's rate of inflation.

All components will be produced or purchased locally except for essential microchips which will be imported from the UK at a cost of £8 per unit, yielding a contribution to the

profit of the parent company of £3 per unit. It is hoped to keep this sterling cost constant over the planning horizon.

Corporate tax in the UK is at the rate of 30% per year, payable in the year the liability arises. A bi-lateral tax treaty exists between the UK and the South American country, which permits the offset of overseas tax against any UK tax liability on overseas earnings. In periods of tax holiday assume that no UK tax would be payable on South American cash flows.

Summarised group data

	£m
Novoroast plc, summarised statement of financial position:	
Non-current assets (net)	440
Current assets	370
Total assets	810
Financed by	
£1 ordinary shares	200
Reserves	230
	430
6% Eurodollar bonds, eight years until maturity	180
Current liabilities	200
Total equity and liabilities	810

Novoroast's current share price is 410 pence per share, and current bond price is $800 per bond ($1,000 par and redemption value).

Forecast inflation rates

	UK	South American country
Present	4%	20%
Year 1	3%	20%
Year 2	4%	15%
Year 3	4%	15%
Year 4	4%	15%
Year 5	4%	15%

Foreign exchange rates

	Peso/£
Spot	13.421
1 year forward	15.636

Novoroast plc believes that if the investment is undertaken the overall risk to investors in the company will remain unchanged.

The company's beta coefficients have been estimated as equity 1.25, debt 0.225.

The market return is 14% per annum and the risk free rate is 6% per annum.

Existing UK microwave production currently produces an after tax net cash flow of £30 million per annum. This is expected to be reduced by 10% if the South American investment goes ahead (after allowing for diversion of some production to other EU countries). Production is currently at full capacity in the UK.

Other issues

The senior management of Novoroast are concerned about the risk that would be associated with an investment in South America.

The government of the country is in serious financial difficulties. The annual fiscal deficit is growing and may not be sustainable for much longer. The government has issued large amounts of bonds denominated in US dollars, and these now have a sub-investment grade credit rating from all the major credit rating agencies. There is a strong possibility that the government will have to ask the International Monetary Fund (IMF) for financial assistance to meet its debt obligations. The country’s commercial banks are major holders of the government bonds.

There are also concerns about the possible actions that could be taken by the government of the South American company. It is possible that the government will introduce exchange control regulations, blocking the remittance of dividends from domestic companies to foreign parents.

Because of their concerns about the risk associated with the proposed investment, the senior management are considering an alternative option. This is to sell a license to manufacture microwave ovens to a public company in the South American country. This company has a stock market listing for its shares and has issued bonds that currently have a credit rating of BB+ from Standard & Poor’s. The licensing agreement would be for five years.

Required

(a) Prepare a report advising whether or not Novoroast plc should invest in the South American country.

Include in your report a discussion of the limitations of your analysis and suggestions about other information that would be useful to assist the decision process.

All relevant calculations must be shown in your report or as an appendix to it.

State clearly any assumptions that you make.
(25 marks)

(b) Prepare a separate report in three sections, providing an analysis of the following issues:

(i) the possible implications for the proposed investment in the South American company of a request by its government for financial assistance from the IMF.
(7 marks)

(ii) the imposition of exchange controls by the government, once the investment has taken place, imposing a block on the remittance of dividends to the UK, with suggestions about how Novoroast might try to avoid such a block on remittances.
(5 marks)

(iii) the financial implications for Novoroast of choosing a licensing arrangement for the manufacture of its microwaves by a company in the South American country.
(9 marks)

Professional marks for format, structure and presentation of the reports.
(4 marks)

(Total = 50 marks)

SECTION B

Question 2

The CEO of Autocrat plc is reviewing the company's interest rate and currency risk strategies for the next few months. There has recently been considerable political instability with some countries showing signs of moving towards economic recession whilst others are still showing steady growth. Both interest rates and currency rates could become more volatile for many major trading countries.

Autocrat is expected to need to borrow £6,500,000 for a period of six months commencing in six months' time.

The company also needs to make a US$ payment of $4.3 million in 3 months' time.

Assume that it is now 1 December. Futures and options contracts may be assumed to expire at the end of the relevant month, and the company may be assumed to borrow at the 3 month LIBOR rate.

LIFFE futures prices, £500,000 contract size

March	95.56
June	95.29

LIFFE options on futures prices, £500,000 contract size. Premiums are annual %.

	Calls		Puts	
	March	June	March	June
95250	0.445	0.545	0.085	0.185
95500	0.280	0.390	0.170	0.280
95750	0.165	0.265	0.305	0.405

Three month LIBOR is currently 4.5%.

Foreign exchange rates

Spot \$1.4692 – 1.4735/£
3 month forward \$1.4632 – 1.4668/£

Currency option prices
Philadelphia Stock Exchange \$/£ options, contract size £31,250, premiums are cents per £.

	Calls		Puts	
	March	June	March	June
1.450	3.12	–	1.56	–
1.460	2.55	2.95	1.99	2.51
1.470	2.14	–	2.51	–

Required

(a) Using the above information, if interest rates in six months' time increase by 0.75%, illustrate the possible results of:

(i) Futures hedges
(ii) Options hedges

Recommend which hedge should be selected and explain why there might be uncertainty as to the results of the hedges.
(11 marks)

(b) Illustrate and discuss the possible outcomes of forward market and currency options hedges if possible currency rates in three months' time are either:

(i) $1.4350 – $1.4386/£
or (ii) $1.4780 – $1.4820/£
(8 marks)

(c) Discuss and illustrate whether or not a currency straddle option with an exercise price of 1.460 might be an appropriate hedging strategy for Autocrat plc. Explain the circumstances in which straddle options could be a profitable strategy.
(6 marks)

(Total = 25 marks)

Question 3

The financial management team of Tampem Co is discussing how the company should appraise new investments. There is a difference of opinion between two managers.

Manager A believes that net present value should be used as positive NPV investments are quickly reflected in increases in the company's share price. It is also simpler to calculate than MIRR and APV.

Manager B states that NPV is not good enough as it is only valid in potentially restrictive conditions, and should be replaced by APV (adjusted present value).

Tampem has produced estimates of relevant cash flows and other financial information associated with a new investment. These are shown below:

		$'000		
Year	1	2	3	4
Investment pre-tax operating cash flows	1,250	1,400	1,600	1,800

Notes

(i) The investment will cost $5,400,000 payable immediately, including $600,000 for working capital and $400,000 for issue costs. $300,000 of issue costs is for equity, and $100,000 for debt. Issue costs are not tax allowable.

(ii) The investment will be financed 50% equity, 50% debt which is believed to reflect its debt capacity.

(iii) Expected company gearing after the investment will change to 60% equity, 40% debt by market values.

(iv) The investment equity beta is 1.5.

(v) Debt finance for the investment will be an 8% fixed rate debenture.

(vi) Capital allowances are at 25% per year on a reducing balance basis.

(vii) The corporate tax rate is 30%. Tax is payable in the year that the taxable cash flow arises.

(viii) The risk free rate is 4% and the market return 10%.

(ix) The after tax realisable value of the investment as a continuing operation is estimated to be $1.5 million (including working capital) at the end of year 4.

(x) Working capital may be assumed to be constant during the four years.

Required

(a) Calculate the expected NPV, MIRR and APV of the proposed investment.
(15 marks)

(b) Discuss briefly the validity of the views of the two managers. Use your calculations in (a) to illustrate and support the discussion.
(10 marks)

(Total = 25 marks)

Question 4

You have been asked to investigate the dividend policy of two companies, Forthmate Co and Herander Co. Selected financial information on the two companies is shown below.

Forthmate Co

	Earnings after tax ($'000)	Issued ordinary shares (m)	Free cash flow to equity ($'000)	Dividend per share (cents)
20X1	24,050	100	11,400	4.8
20X2	22,345	100	12,200	4.5
20X3	26,460	100	(3,500)	5.3
20X4	32,450	130	(2,600)	5.0
20X5	35,890	130	9,200	5.5

Herander Co

	Earnings after tax ($'000)	Issued ordinary shares (m)	Free cash flow to equity ($'000)	Dividend per share (cents)
20X1	8,250	50	6,100	10.0
20X2	5,920	50	(4,250)	10.0
20X3	9,140	50	10,300	10.3
20X4	10,350	50	4,400	10.5
20X5	8,220	50	3,140	10.5

A colleague has suggested that companies should try to pay dividends that are a constant percentage of a company's free cash flow to equity.

Required

(a) Analyse and contrast the dividend policies of Forthmate Co and Herander Co. Include in your analysis estimates of dividends as a percentage of free cash flow, and any other relevant calculations.
Discuss possible reasons why the companies' dividend policies differ.
(13 marks)

(b) Discuss whether or not a company should pay dividends that are equal to the free cash flow to equity.
(6 marks)
In both of the last two years Herander Co has considered the following potential investments with positive NPV:

	NPV($'000)	Initial investment cost ($'000)	Undertaken
20X4	1,250	1,050	Yes
20X4	780	625	No
20X5	1,320	1,460	Yes
20X5	735	3,500	No
20X5	525	1,150	No

Required

(c) Discuss the implications of your findings in (a) above for the financial strategy of Herander Co.
(6 marks)

(Total = 25 marks)