Answers

Section A

1 B

Lowering the cost of capital will increase the present value of cash inflows, which will in turn increase the NPV and reduce the discounted payback period. The IRR will be unaffected by any change as the cost of capital is only used as a 'hurdle rate' and is not used in calculating the IRR.

2 B

The risk-free rate (X) can be calculated using the information relating to Alborz Co as follows:

9·0 = X + 0·8 (10 – X)
X = 5·0

Expected rate of return (Y) for Ural Co is calculated as follows:

Y = 5·0 + 1·2(10·0 – 5·0)
Y = 11·0

3 C

Mezzanine finance ranks below senior debt but ahead of equity investors for capital repayment if a business is liquidated. Junk bond holders expect to receive higher yields than holders of investment-grade bonds to compensate for the higher risks that they have to take.

4 C

The total annual cost is [(60,000/1,200) x $15] + [(1,200/2) x $3] + $360,000= $362,550

5 B

Under the weak form of market efficiency, share prices are random and occur in response to historical information about a business when it becomes publicly available. Share prices do not anticipate new information being announced.

6 B

	$
Original shares (3 x $16)	48·00
Rights share	12·00
	60·00
Ex-rights price $60/4	15·00
Cost of acquiring rights share	12·00
	3·00
Value of rights per original share $3·00/3	$1·00

7 A

Investment	Initial outlay	PV of net cash inflows	Profitability index	Ranking
	$m	$m		
Kurai	186	211	1·1	4
Barisan	65	84	1·3	2
Carnic	100	120	1·2	3
Flinders	50	71	1·4	1

8 B

Equity ($500,000/10%)	= $5m
Non-current liabilities ($5m x 2)	= $10m
Net assets (NCL + E)	= $15m
Current assets ($15m/3)	= $5m
Inventory (($5m – ($5m x 0·8))	= $1m

9 C

A stock split does not affect the reserves of a company. It will, however, create more shares without creating more value and will therefore reduce the price of shares in issue.

10 B

An increase in the operating cash cycle will mean that there will be an overall increase in inventories and receivables and/or payables will decrease. The current ratio should, therefore, increase. A scrip issue simply transfers reserves to share capital and has no effect on the total equity of the company. It should, therefore, have no effect on the debt/equity ratio.

11 A

Option A is correct. Remuneration of non-executive directors should not normally include share options.

12 B

Using CAPM, the expected return for the equity shareholders is:

= 3% + [1·4 (9% – 3%)] = 11·4 %

The predicted market value of a share is:

$P_o = D_1/K_o$

$= \frac{\$0{\cdot}10}{0{\cdot}114}$

$= \underline{\$0{\cdot}88}$

13 C

1. The put option allows Kamnik Co to sell the shares above the current market price and so the option will be exercised.
2. The option should be exercised as it is cheaper to borrow at 5·2% than at the current market rate.
3. The call option should be allowed to lapse. It is cheaper to buy UK sterling at the current market rate.

14 B

Statement 1 is true but Statement 2 is false. MM (ignoring taxes) states that the cost of equity in a geared business equals the expected cost of equity in an ungeared business plus a risk premium.

15 D

The annual rate of growth in future dividends is 12% x 75% = 9%

Using the dividend growth model, the expected market value of each share is:
Po = Do(1 + g)/(r – g)
Po = 0·30(1 + 0·09)/(0·12 – 0·09)
Po = $\underline{\$10{\cdot}9}$

16 B

The two businesses can borrow in the following two ways:

(i) Hafner (LIBOR + 0·8%) and Ennstal 6·8%
Total = LIBOR + 7·6%

(ii) Hafner (6·2%) and Ennstal (LIBOR + 1·0%)
Total = LIBOR + 7·2%

Thus, the second method offers a 0·4% benefit overall (to be divided equally between the businesses). Without the swap, Hafner would pay (LIBOR + 0·8% = 5·8% + 0·8%) = 6·6%. With the swap, Hafner will pay [6·6% – (0·4%/2)] = 6·4%

17 A

Both statements are correct.

18 C

The annual borrowing rate for euros is 9% (that is, 3% for 4 months).

The business will borrow:
€500,000/1·03 = €485,437

This will then be converted at the spot rate:
€485,437/1·4520 = £334,323

19 D

Both statements are false. The chairman should be evaluated on an annual basis by the non-executive directors. Board committees should be evaluated by the board of directors on an annual basis.

20 C

In two months' time, the euros must be sold for dollars. Hence, the company should sell euro futures now and buy them in two months' time.

Section B

1 (a)

	Incremental cash flows Year to 30 November				
	Present	2008	2009	2010	2011
	$m	$m	$m	$m	$m
Revenue		18·3	22·5	12·6	7·2
Equipment	(6·0)				2·0
Salary and wages		(12·7)	(14·4)	(6·6)	(2·5)
Materials and components	0·2				
Overheads		(1·2)	(1·2)	(1·2)	(1·2)
Working capital	(2·5)				2·5
	(8·3)	4·4	6·9	4·8	8·0
Discount factor	1·00	0·91	0·83	0·75	0·68
Present value	(8·30)	4·00	5·73	3·60	5·44
Net present value	10·47				

The NPV is positive and so acceptance of the project is expected to enhance shareholder wealth. Given the objectives of the company, which were stated in the question, the project proposal should be accepted.

(b) Notes

Only future, additional cash inflows and outflows arising from the investment decision are relevant when assessing the future profitability of the proposed project. Thus, when calculating the net present value of the new drill, the following adjustments were made to the figures provided:

(i) The cost of materials and components were ignored as they were already held in stock, had no market value and could not be used for any other purpose. However, the additional cost of disposing of the materials and components, in the event that the new drill is not produced, is taken into account. A decision to go ahead with the investment project will lead to a cost saving.

(ii) Only the additional overheads arising from Project XK150 are included in the NPV calculations and other overheads, which do not arise as a direct result of the project, are ignored.

(iii) Depreciation, which is a non-cash item, is excluded from the NPV calculations. The relevant cash outflows relating to the equipment occur at the time of purchase and sale.

(iv) The current market value of the plant and equipment represents cash foregone and is therefore included in the calculations. (The net book value of the equipment is based on past outlays and is not, therefore, relevant.)

(v) The residual value of the plant and equipment at the end of the four-year period is a relevant future benefit that should be included.

(vi) The working capital investment at the beginning of the four-year period and its release at the end of this period represent cash inflows and outflows that should be included.

(vii) The development costs have already been incurred. Thus, they are sunk costs that should be ignored.

(viii) Interest charges should be ignored. The cost of financing the project is reflected in the discount factor and so to include these charges as cash outflows would result in double counting.

(c) The net present value (NPV) method is appropriate because the question states that the company is committed to maximising the wealth of its shareholders. The NPV method is entirely consistent with the pursuit of this financial objective. It takes account of all relevant cash flows and also takes account of the time value of money by discounting future net cash flows to their present value. The net present value (NPV) of the cash flows is used as the basis for an accept/reject decision. If the NPV of the future discounted cash flows is positive, the project should be accepted as this indicates that shareholder wealth will be increased. If, however, the NPV is negative, the project should be rejected as this indicates that shareholder wealth will decrease.

2 (a) Forecast net income

	Existing policy		Proposed policy	
	$m	$m	$m	$m
Sales revenues		80·0		90·0
Cost of sales (55% sales)		44·0		49·5
Gross profit (45% sales)		36·0		40·5
Less Variable overheads (20% of sales)	16·0		18·0	
Fixed overheads	4·8		4·8	
Discount allowed [($2^1/_2$% x 75% x $80m) + ($2^1/_2$% x $10m)]	–	20·8	1·8	24·6
Net profit		15·2		15·9

(b) Working capital investment

	Existing policy $m	Proposed policy $m
Inventories		
($44m x 4/12)	14·7	
($49·5m x 4/12)		16·5
Trade receivables		
($80m x 2/12)	13·3	
[($70m x 1/12) + ($20m x 2/12)]		9·2
Cash	0·3	0·3
	28·3	26·0
Less		
Trade payables		
(3/12 x $44m)	(11·0)	
(3/12 x $49·5m)	–	(12·4)
	17·3	13·6

(c) Adopting the discount policy will lead to a decline in the net profit margin: from 19·0% to 17·7%. Nevertheless, there will be a slight increase in total net profit generated as a result of the additional sales. The change in policy will lead to a significant decrease in working capital investment, which should, in turn, help boost the return on capital employed of the business. Based on the figures calculated, therefore, it seems that the discount policy should be implemented. However, it may be useful to check the assumptions underpinning the forecast figures. The expected increase in profit is quite small and it is likely to be sensitive to any forecast inaccuracies. In particular, the forecast assumption that a change in discount policy will lead to a $10 million increase in sales revenues should be thoroughly investigated. This represents a 12·5% increase in total sales, which may prove to be over-optimistic.

3 (a) Operating and financial synergies will lead to the present value of the future cash flows of the combined entity being greater than the present value of the future cash flows of each business when taken separately. Operating synergies may be achieved in mergers and takeovers through:

- an increase in the size of the business, leading to economies of scale such as bulk buying,
- an opportunity to eliminate duplicate resources such as premises and equipment,
- an increase in market power, leading to higher sales revenues and higher profits,
- combining complementary resources resulting in a stronger, more competitive business.
- the replacement of an existing management team with a more efficient, more motivated management team who are capable of exploiting existing resources more fully.

Financial synergies may be achieved through:

- better use of surplus cash, through the availability of profitable opportunities,
- potential tax benefits, where a company may use accumulated tax losses of the acquired company to offset against tax liabilities,
- greater borrowing capacity, which may help in lowering the cost of capital and in increasing profits through the gearing effect.

(b) A strategy of diversification does not always provide a sound rationale for a merger or a takeover. One problem is that the synergies identified above are often more difficult to achieve when two businesses, which are quite different in nature, are combined. Such differences may, for example, prevent Bergamo plc from benefiting from economies of scale or the use of complementary resources. Similarly, although the management team of Bergamo plc may be highly efficient and highly motivated, it may not have the necessary skills to replace the management team of Ortler plc. There may also be problems in trying to integrate the operations of two different kinds of business because of differences in market needs, business culture and so on.

Diversification is a useful way of dealing with risk and it is therefore intuitively appealing to see mergers and takeovers as a useful means to achieve this end. The question that must be asked however is whether the directors of the company should diversify or whether the shareholders should diversify. It is usually easier and cheaper for shareholders to diversify, by acquiring a diversified portfolio of shares, than for the directors to diversify. When the directors of a company diversify, by taking over another company, a significant premium is often paid to the shareholders of the target company.

(c) A share-for-share exchange is simply an exchange of paper and therefore involves no strain on the cash resources of the bidding business. However, there will be some dilution of existing shareholder control and, perhaps, some dilution of earnings per share. (The latter will occur if the incremental earnings from the takeover divided by the new shares issued is less than the existing earnings per share of the bidding company.) Shares are an expensive form of finance and so the board of the bidding company should consider the service costs of financing a new share issue before a final decision is made.

From the target shareholders' viewpoint, an offer in the form of shares may be difficult to evaluate as share prices will tend to fluctuate. There is also a risk that the value of the shares offered will fall during the course of the takeover. However, there are advantages in receiving the bid consideration in this form. It allows target company shareholders to continue to hold this form of investment without incurring transaction costs and also allows them to have a continuing association with the business that formed the basis for their original investment. In the UK, a share-for-share exchange is exempt from capital gains tax, which may provide a further incentive to accept this form of consideration.

The main advantages of offering cash from the bidding company's viewpoint is that there will be no dilution of control, as no shares are issued. (Although the strain that a cash offer will impose on the liquidity of the bidding company may result in either the issue of new shares or loan capital to raise more cash.) The main advantage of making a cash offer to the target company shareholders is that the value of the bid is certain, which may increase the chances of a successful bid. By receiving cash, target shareholders will incur no transaction costs on the disposal of their shares, however, transaction costs will be incurred if the cash is re-invested in this form of investment. In the UK, cash received from the surrender of shares for cash will be treated as a disposal, which may give rise to a capital gains tax liability.

(Examiner's note: Other answers to this question may have been acceptable.)

Section C

4 (a) (i) Cost of loan capital

The cost of redeemable loan capital can be calculated as follows:

Year		Cash flow $	Discount rate 6%	Present value $	Discount rate 9%	Present value $
0	Market Value	95·00	1·00	(95·00)	1·00	(95·00)
1–3	Interest (after tax)	6·00	2·67	16·02	2·53	15·18
3	Capital repayment	100·00	0·84	84·00	0·77	77·00
				5·02		(2·82)

The approximate cost of loan capital is therefore:
6% + [5·02/(5·02 + 2·82)]3% = 8·0% (To nearest %)

(ii) Cost of equity

The dividend per share (DPS) is:
DPS = earnings per share/dividend cover

The earnings per share (EPS) of the company is:
EPS = after-tax profits/no. of equity shares
$5m/25m = $0·20

Thus, the current dividend per share is:
= $0·20/2·0
= $0·10

The annual growth in after-tax profits and dividends (as the dividend cover ratio remains constant) is = 8%

The value of a share in the Pirin Co is:

P_o = EPS x P/E ratio
= $0·20 x 7·6
= $1·52

Using the dividend growth model, the cost of equity capital (R) can be calculated as follows:

R = $(D_1/P_o) + g$
= (0·108/1·52) + 0·08
= 15% (to nearest %)

(iii) WACC

The market capitalisation of the equity shares is:

= P/E ratio x after-tax profits
= 7·6 x $5m
= $38·0m

The market value of the debt is:
=10m x $95/$100
= $9·5m

Hence the debt-to-total finance ratio is 0·20.

The WACC can be calculated as follows:

	Capital proportions	Cost	Weighted cost
		%	%
Equity	0·80	15·0	12·0
Loan capital	0·20	8·0	1·6
	1·00		13·6

Thus WACC = 14% (to nearest %)

(b) The company is currently using a WACC of 16% when making capital investment appraisal decisions. Failure to use the re-calculated figure of 14% may lead to investment opportunities being rejected that should be accepted. Using a higher cost of capital has the effect of decreasing the net present value figure and may lead to a negative outcome, rather than a positive outcome had the correct, and lower, cost of capital been used.

(c) Key assumptions underpinning the use of WACC as the discount rate when evaluating investment proposals are:

1. The investment opportunity being evaluated has the same degree of systematic risk as the company as a whole. The discount rate used should reflect the systematic risk associated with the investment and the use of WACC is only valid when this risk is in line with the systematic risk of the company as a whole.
2. In the future, the capital structure of the company will stay the same. Any new funds will be raised in the same proportions as existing funds so that there is no effect on the weights attached to equity capital and loan capital.
3. The investment being evaluated is small in relation to the size of the company. The cost of equity and cost of loan capital reflect their marginal cost, which means that WACC reflects the overall marginal cost of relatively small amounts of finance. The investment must, therefore, be relatively small for it to be financed by relatively small amounts of finance.

5 (a) The current policy towards risk management of Rila Co reflects the traditional approach. The problem with managing risks in departmental silos, as described in the question, is that it fails to take account of the overall risk profile of the company. There is a failure to establish common priorities or systems to deal with risk or to recognise explicitly the implications of actions taken to manage risks within one department on the operations of other departments. There is also a danger that certain risks, which do not fall clearly within the realm of a particular department, will be ignored.

Enterprise risk management (ERM) recognises the fluid and highly-dynamic nature of risk. It also recognises that interdependencies make it impossible to manage risk based on separate independent departments. ERM therefore adopts an integrated comprehensive approach to the management of risk. The main features of ERM are that:

– it considers risk within a strategic context, which means that it takes account of the aims and objectives of the company;
– it attempts to identify the risk appetite of the company and to manage risks accordingly;
– it is a process, which is integrated with existing operations and applied across the company;
– it is carried out by people at all levels within the company;
– it attempts to provide reasonable assurances to the senior managers that risks have been identified and are being managed.

(b) An ERM approach should help Rila Co to achieve its aims and objectives and to avoid some of the problems in doing so. In particular, it should:

– make senior managers identify the risk appetite of the company;
– make the risk appetite explicit and align it with the aims and objectives of the company;
– ensure that the right balance is struck between risk and return;
– increase organisational effectiveness by identifying key risks and by focusing attention on the management of these risks;
– decrease the chances of receiving operational surprises and incurring losses, thereby improving the stability of earnings;
– improve capital allocations by ensuring that risk is properly taken into account when considering investment opportunities.

As ERM should help reduce the volatility of earnings and result in a better allocation of capital, the cost of capital of the company may be lowered.

(c) The senior managers of Rila Co are dismayed at the introduction of an ERM approach, which does not auger well for a successful implementation. We are told in the question that Rila Co is a small company, which makes it easier for a small group of determined managers to override the ERM framework. There is a real risk that some managers may collude and try to continue to operate their departments as though they were still separate units for risk management purposes.

To try to ensure successful implementation of ERM, the following steps should be adopted:

– there should be careful initial planning, which sets out a feasible time period and the resources needed;
– appropriate training in ERM and risk management concepts must be available to all employees of the company;
– the board of directors must demonstrate their commitment to ERM and senior managers should be required to become involved in the implementation process;

– the existing culture of the company should be taken into account, insofar as it is possible to do so;
– where existing systems have proved their worth, new systems should build on, rather than replace, them. This may ensure greater support for the new systems.

(Examiner's note: Other answers to this part of the question may have been acceptable.)

6 (a) For London Stock Exchange listed companies, the Combined Code recommends that the board of directors should set up an audit committee with delegated authority for ensuring that financial reporting and internal control procedures are properly applied and for maintaining an appropriate relationship with the external auditors. The Combined Code sets out the main role and responsibilities of the audit committee as follows:

1 to monitor the integrity of the financial statements;
2 to review the company's internal controls;
3 to make recommendations concerning the appointment and removal of the external auditor and to approve the terms of engagement;
4 to review and monitor the independence, objectivity and effectiveness of the external auditor;
5 to establish and implement policies concerning the supply of non-audit services by the external auditor.

In addition to the duties identified above, the audit committee may also take responsibility for reviewing the risk management systems of the company where the board, or a separate risk committee, does not specifically address this issue.

To fulfil its role, the committee should meet regularly and the time allocated to each meeting must be appropriate. Some of the meetings should be planned to precede important events such as the commencement of the annual audit, the publication of interim financial statements and the announcement of the preliminary results for the year.

When reviewing internal controls, the committee should receive details on the effectiveness of the processes in place by both the internal and external audit teams. The committee must be satisfied that the internal controls have operated satisfactorily during the year and that any recommendations for improvement were implemented.

When reviewing the company's risk management systems, the committee will need to be satisfied that the key risk areas are being monitored and that any control failures or emerging risks are quickly identified and dealt with. The committee must also be satisfied that risk management is not seen as simply a 'box-ticking' exercise and that there is widespread recognition of its importance. Internal auditors should provide assistance to the audit committee by reporting on the effectiveness of internal control and risk management procedures.

When reviewing the external audit process, the committee should consider the experience and expertise of the audit team. The committee should also review the audit plans and procedures that are being proposed and should check to see that there is an appropriate fit with the work carried out by the internal audit team. To help maintain a fresh perspective to the audit process, the committee may wish to ensure that the head of external audit and/or the audit firm is rotated on a regular basis.

When reviewing the financial statements, the committee should pay particular attention to the accounting policies adopted, any significant estimates or judgements and any unusual items or trends. By so doing, it may be possible to identify irregular accounting practices or fraudulent behaviour.

The audit committee will normally produce a report for shareholders for inclusion within the annual report. The audit committee report will be presented to the annual general meeting, which the chairman of the audit committee should attend. This will provide shareholders with the opportunity to question the chairman on any matters for which the committee has responsibility.

(b) There are potential costs in placing heavy responsibilities on the audit committee and in scrutinising its activities and decisions. There is always a risk that such pressure will cultivate an increasingly cautious approach among committee members, which, in turn, may inhibit managers from taking risks. A 'compliance' mentality may develop that stifles creativity and risk taking, which are essential to long-term prosperity.

There is also a danger that the responsibilities placed on the audit committee, and the scrutiny to which its activities are subjected, may dissuade individuals from chairing, or even becoming a member of, the audit committee. A great deal of time and effort is normally required to carry out the committee's work and there is considerable risk to an individual's reputation if things go wrong.

(Examiner's note: Other answers to this question may have been acceptable.)

			Marks
Section B			
1	**(a)**	1 mark for revenue line, 1 mark salary and wages line, 2 marks for other correct line of cash flows, 1mark discount calculation, 2 marks comments	11
	(b)	1 mark for each note	6
	(c)	2 marks for discussing shareholder wealth maximisation, 1 mark marker's discretion	3
			20
2	**(a)**	4 marks for existing policy, 4 marks for proposed policy	8
	(b)	4 marks for existing policy, 4 marks for proposed policy	8
	(c)	2 marks profit discussion, 1 mark working capital discussion, 1 mark decision	4
			20
3	**(a)**	3 marks operating synergies, 3 marks financial synergies	6
	(b)	3 marks problems of achieving synergies, 3 marks risk diversification issues	6
	(c)	4 marks share-for-share exchange, 4 marks cash payment	8
			20
Section C			
4	**(a)**	Cost of loan capital 5 marks, cost of equity capital, 5 marks, WACC 3 marks	13
	(b)	2 marks for stating that it may lead to the acceptance of unprofitable investments	2
	(c)	2 marks per point (max. 5 marks)	5
			20
5	**(a)**	3 marks for problems, 4 marks for features of ERM	7
	(b)	1 mark per point	6
	(c)	2 marks per point (max. 7 marks)	7
			20
6	**(a)**	7 marks for describing role, 6 marks for describing how this role is fulfilled	13
	(b)	2 marks per point, 1 mark at marker's discretion	7
			20