CIMA

P10 – Test of Professional Competence in Management Accounting

22 May 2008 – Thursday Afternoon Session

Instructions to candidates

You are allowed three hours to answer this question paper.
You are allowed 20 minutes reading time **before the examination begins** during which you should read the question paper and, if you wish, make annotations on the question paper. However, you will **not** be allowed, **under any circumstances**, to open the answer book and start writing or to use your calculator during the reading time.
This booklet contains the examination question and both the pre-seen and unseen elements of the case material.
Answer the question on page 17, which is detachable for ease of reference.
The TOPCIMA Assessment Matrix, which your script will be marked against, is on page 18.
Maths Tables and Formulae are provided on pages 24 to 27.
Write your full examination number, paper number and the examination subject title in the spaces provided on the front of the examination answer book. Also write your contact ID and name in the space provided in the right hand margin and seal to close.

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Market overview

The holiday industry is a large, varied industry which is very competitive and tourism generates enormous revenues. Branded chains of hotels differentiate from each other according to the level of quality and facilities they offer. The “package holiday” trend started in the 1960’s and concentrated on specific tourist destinations. Since then the holiday industry has changed and matured enormously. Since the early 2000’s, Internet bookings have made a significant impact on the way customers choose to book their holidays. Increasingly, holiday makers have become much more selective and, through the use of a variety of media, they are able to identify facilities available at their chosen hotel. European holiday makers choose particular destinations depending on weather, facilities, value for money and levels of comfort at the chosen hotel. Significant numbers of holiday makers choose to take their holiday in the Peak season. The Peak season in Europe is defined as the months of May to September inclusive.

There are a large number of international hotel chains that offer levels of comfort based on the internationally recognised “star” rating system. There are also many holiday resort hotels which offer a wide range of sports and other facilities to customers within the hotels’ grounds. These often include golf courses and a wide range of sports and water sports. A resort hotel is defined as a hotel that includes a far wider range of facilities on site than a typical hotel. There are increasing numbers of resort hotels around the world. These resort hotels, which are designed specifically for holiday makers, are situated in prime tourist areas at popular destinations.

The hotel industry relies heavily on its employees and its IT systems to deliver the quality of service expected by its customers. Following a downturn in air travel in 2001, many hotels suffered a decline in bookings and were forced to look hard at ways to differentiate themselves in order to attract customers.

The majority of European holiday bookings are still made through established travel companies (whether through travel agent shops or using the travel agents’ websites) although a growing number of bookings are made by the customer with hotels directly.

The Solberri hotel group

Solberri is a group of mainly resort hotels, all in Europe. It was established in the mid 1980’s by its founder, Richard Berriman. The first two Solberri hotels were located in two different countries around the coast of the Mediterranean Sea. These two Solberri hotels established a high reputation for quality. By the late 1980’s the two Solberri hotels were regarded by many other international hotel chains as the benchmark for the standards to aspire to.

The success of these first two hotels helped to finance the expansion of the Solberri hotel group. This success financed the expansion of new purpose built resort hotels, which included a wider range of facilities on site, including golf facilities, water sports, spas and beauty treatments. To enable the group to expand further, it needed additional finance, rather then relying solely on loan finance. In 1998 the company became listed on a European stock exchange. By the end of 2000 the Solberri group had 10 resort hotels and the original 2 hotels, which have a smaller range of facilities. These 12 hotels are situated in several European countries, along the Mediterranean coast. The 10 Solberri resort hotels were among some of the most prestigious in Europe at that time. The company continues to invest in new facilities and has a rolling refurbishment programme, which ensures that the high standards which customers expect, are met.

Solberri’s personnel

The career histories of Solberri’s key personnel are shown in **Appendix 1** starting on page 11.

Routes to the market

Solberri hotels have 3 main routes to the market.

- The main route is that bookings are secured as part of a “holiday package” offered by travel agents, where the customer pays a fixed price, inclusive of flights and accommodation, to the travel agent. The revenue generated from bookings made by travel agents is lower than the revenue generated from bookings made by customers who book directly with Solberri, as the travel agents deduct their agreed discount.

- Bookings are made by new customers directly with Solberri using Solberri’s website. These customers usually book as a result of Solberri’s marketing campaigns and make their own flight arrangements.

- Repeat business. Customers return to Solberri and they book directly with the hotel or by using Solberri’s website to secure a repeat business discount.

In the financial year ended September 2007, around 60% of bookings were made through travel agents. Around 30% were made by new customers directly with Solberri. Around 9% were repeat business. There were a small number of bookings from other sources.

Difficult market conditions for the Solberri group

During 2003 to 2005 it became clear, through falling customer numbers and disappointing customer feedback, that the Solberri hotel group had become complacent. The management team had considered that its successful growth and level of profitability would continue.

In 2005, the group made its first ever operating loss and the then Chief Executive resigned in early 2006. The financial year ended September 2006 also resulted in an operating loss. The Solberri Board recruited a new Chief Executive, Johan Alnetti, in September 2006.

Pricing changes effective from May 2007

Solberri’s management had previously resisted any change to the pricing structure, although the Board recognised the need to increase its occupancy level. When Johan Alnetti joined Solberri he worked closely with Richard Berriman to review the pricing structures at Solberri hotels in order to boost occupancy levels.

Over the last decade, many competitors in the Mediterranean region have offered “all inclusive” accommodation arrangements. An “all inclusive” room rate is defined as a fixed price for the room inclusive of all meals, most drinks and use of many of the available leisure facilities. The room rate varies depending on features, the location of the room and assumes 2 people sharing. Therefore, there are no additional charges, unless spa treatments or particular sports activities are booked by customers.

Following extensive market research the Solberri Board decided to change the pricing structure effective from the Peak season which commenced in May 2007. This new “all inclusive” price structure is competitive with other “all inclusive” resort hotels. It has also enabled Solberri to market itself as one of the leading “all inclusive” resort hotel groups in Europe.

Prior to the launch of the “all inclusive” room rate for Solberri in May 2007, Johan Alnetti and Piers Lui agreed on which facilities would be included in the “all inclusive” room rate, and which facilities would be charged as extra charges to customers. For example, all of the Solberri hotels have spa facilities including swimming pools, hot tubs, steam rooms and saunas, as well as a range of spa treatments. The use of these spa facilities are not charged as an additional charge. However, all spa treatments which involve the use of highly trained, skilled employees are charged to customers and generate additional revenues. These spa treatments have proved to be very popular with customers and are in high demand. Solberri also has a number of sports activities which generate extra revenues. These extra revenues generated €21 million in the financial year ended September 2007, which represents an additional 15% of revenue, over and above that which is generated from the “all inclusive” room rate.

Giorgi Kahle launched a major marketing campaign to promote the Solberri brand in early 2007 using a variety of media, including direct marketing, radio and TV advertising and the use of other media. This has proved to be effective as the average occupancy level has shown an increase on the level achieved during the 2006 Peak season, to 74% in the 2007 Peak season (see page 6 in Occupancy levels).

Summary of Solberri hotels

The 12 Solberri hotels in the group are currently categorised into 3 types depending on the range of facilities they offer. Solberri does not participate in the international star ratings system, but its range of hotels shown in the table below, is comparable to the international star rating system. The table below also shows the number of rooms available and the average price per room for the 2007 Peak season. The average price per room represents the price for 2 people at the “all inclusive” room rate including food, drinks and all of the inclusive activities.

Solberri hotel category	**Number of hotels (as at September 2007)**	**Number of rooms at each hotel**	**Total number of rooms available**	**Average price per room per night (Peak season 2007 prices)**
				€
Premier (equivalent to 5 star)	2	250	500	650
Superior (equivalent to 4 star)	7	200	1400	525
Super plus (equivalent to 3 star)	3	150	450	350
Totals	12		2,350	

The average price per room is substantially lower in the Non-peak season, at around 45% of the Peak season price per room. The average price per room shown above is before deduction of the discount given for rooms booked by travel agents and the repeat business discount.

It should be noted that two of the hotels currently categorised as “Superior” are now being refurbished during the Non-peak season 2007/08. They will then be re-categorised as “Premier” for the 2008 Peak season (see page 5 in Investment and refurbishment programme).

Johan Alnetti is concerned about the three “Super plus” hotels as they offer limited leisure facilities, spa facilities and water-sports, which is reflected in the lower “all inclusive” room rate.

Growing demand for improved spa facilities

Richard Berriman and Johan Alnetti both agree that the range and luxury of the hotels’ spa facilities is a key factor that affects the customers’ decision as to whether or not to book their holidays with Solberri. Market research has been conducted that confirms that spa facilities are a key selling point. Johan Alnetti would like to extend and enhance the size of the spas at all Solberri hotels and also to extend the range of spa treatments on offer. This would require capital expenditure at all hotels and also necessitate the recruitment of additional skilled employees to provide spa treatments.

Johan Alnetti is confident that if Solberri were to have enhanced spa facilities at its resort hotels then these could generate additional revenues, sufficient to cover all operating costs of the spa, and also be a selling point to improve the level of bookings for Solberri hotels.

Investment and refurbishment programme

Solberri has established world class spa facilities at both of its 2 “Premier” hotels, which has proved very popular. These 2 “Premier” hotels, underwent a thorough refurbishment programme during the Non-peak season in 2006/07, involving the expansion of their spa facilities, as well as refurbishment of other areas around the hotels, costing €6 million each. The improved spa facilities have generated high additional revenues and have made these facilities at the 2 “Premier” hotels profit generating within the first Peak season. These 2 “Premier” hotels have experienced the highest level of accommodation bookings for over ten years and Richard Berriman considers that this is mainly due to the new enhanced spa facilities. The spa facilities at these 2 “Premier” hotels have also generated much favourable publicity for the Solberri group of hotels.

The latest 5 year plan, for the period starting October 2007, was approved in May 2007. It includes plans to continue to invest €12 million annually in the group’s rolling refurbishment programme to bring 2 further hotels each year up to the “Premier” hotel standard. Furthermore, by providing improved spa facilities, additional revenues are generated from customers who book spa treatments. Currently, Richard Berriman considers that only the 2 “Premier” hotels in the group meet the standards to which he wants the Solberri hotels to conform.

During the Non-peak season ending in April 2008, a further 2 “Superior” hotels are currently undergoing a refurbishment, which will include improved accommodation facilities as well as enhanced spa facilities. Therefore by the start of the 2008 Peak season, there will be 4 “Premier” hotels in the Solberri group, which meet Richard Berriman’s desire for “world class” spa facilities. Therefore, there will be only 5 “Superior” hotels from the 2008 Peak season.

Richard Berriman wants to enhance and extend the spa facilities at the remaining 8 Solberri hotels as soon as possible, but is constrained by a lack of finance. Johan Alnetti has stated that these spa facilities should be extended as a matter of urgency as he believes that the investment will be repaid very quickly by higher occupancy level and also additional revenues generated by the spa treatments. However, the timing and financing for this work has not yet been agreed. Antonio Skrip is reluctant to take on additional loan finance for the refurbishment and extension of spa facilities at the remaining 8 Solberri hotels. He considers that this can be done using cash generated from operations over the next few years.

Key Performance Indicators

The Solberri Board uses a variety of key performance indicators (KPI's) to monitor the performance of the group. These KPI’s are commonly used in this industry, and include the following:

- Occupancy level. This most important business measure is defined as the proportion of rooms available during the period which were occupied during the period.

- Return on capital employed (ROCE). Solberri defines this KPI in the same way as is the norm for this industry, which is the operating profit generated (after allocated group overheads) divided by Non-current assets at the end of the last financial year.

- Revenue Per Available Room (RevPAR). This is defined as the total revenue generated from room bookings only for the Peak season (that is after the discounts given to travel agents and for repeat business and before additional revenues from extras, such as spa treatments) divided by the total available rooms during the Peak season, expressed as a daily figure.

- Level of repeat bookings. This is defined as the number of bookings made by those customers who have stayed at any Solberri hotel within the last 5 years expressed as a percentage of the total number of bookings.

A summary of the KPI's for the Solberri group for the year ended 30 September 2007 is shown in the table below.

Hotel Category	Number of Hotels	Occupancy level (Peak season)	ROCE %	RevPAR (Peak season only) €	Repeat bookings
Premier	2	89.5%	10.7%	471.8	9.0%
Superior	7	72.0%	7.5%	306.6	8.7%
Super plus	3	63.0%	4.0%	178.8	10.0%
Total	12	74.0%	8.1%	317.3	9.0%

The RevPAR figures above are shown for the Peak season only and are based on the revenue generated at the average price per room (as shown in the table on page 4) at the average Peak season occupancy level less the proportion of discounts given to travel agents and for repeat business. For example, the RevPAR figure of €471.8 for the "Premier" hotels is calculated on the total revenue, after discounts of 18.9% overall, which was €36.093 million. This amount is divided by 500 (representing the 500 "Premier" rooms), and further divided by 153 (representing the 153 days in the Peak season). This results in the RevPAR figure of €471.8.

The Balance Sheet, Income Statement and Statement of Changes in Equity for Solberri for the last two financial years are shown in **Appendix 2** on page 13.

Occupancy levels

The key driver for profitability is the occupancy level achieved. A low level of occupancy is acceptable to the Solberri management team for the Non-peak season providing it covers the operating costs. However, the overall level of profitability is mainly affected by the occupancy level achieved in the Peak season.

The planned occupancy level for the 2008 Peak season is 85%. Giorgi Kahle has an agreed marketing budget of almost €22 million for the financial year to September 2008 to stimulate demand to achieve this planned higher occupancy level. He has allocated this budget between a number of marketing areas, including marketing literature, direct mail and advertising on radio and television. There was a marketing campaign during the last few months of 2007 and early 2008 and he is currently finalising a further follow-on marketing campaign in order to deliver the planned higher occupancy level in the 2008 Peak season. All of these marketing campaigns will be achieved within the agreed marketing budget of €22 million.

The average period that customers stay at a Solberri hotel is 10 nights, with 50% of customers staying only 7 nights. 37% of customers stay for 14 nights and the remaining 13% of customers stay between 8 and 14 nights.

As far as Solberri's management can establish two of its main competitors managed to achieve occupancy level of around 90% to 95% during the 2007 Peak season. Indeed, some of the enquiries by Giorgi Kahle's market research team have established that some competitors' resort hotels were fully booked (100% occupancy) during some weeks of the 2007 Peak season. It remains a challenge for the Solberri group to try to achieve fully booked hotels during the 2008 Peak season.

The average occupancy level across the 12 hotels in the Solberri group, compared to planned occupancy levels, are shown in the table on page 7.

Average occupancy level across all 12 Solberri hotels	Non-peak season (7 months: October to April inclusive)		Peak season (5 months: May to September inclusive)		Overall	
Financial year ended:	**Actual**	**Plan**	**Actual**	**Plan**	**Actual**	**Plan**
September 2006	19.0%	30.0%	65.0%	75.0%	38.3%	48.9%
September 2007	25.0%	30.0%	74.0%	80.0%	45.5%	51.0%
September 2008	Not available	30.0%	Not available	85.0%	Not available	53.1%
September 2009	Not available	30.0%	Not available	90.0%	Not available	55.2%

Revenue targets

The budgeted revenue target for the financial year ended September 2008 is €193 million. This higher level of revenues is driven primarily by the higher average planned occupancy of 85% for the Peak season. Furthermore, effective from the 2008 Peak season there will be 4 "Premier" hotels, as 2 hotels are being refurbished during the Non-peak season ending April 2008 (as detailed above in Investment and refurbishment programme).The "all inclusive" room rates which were introduced for the 2007 Peak season are budgeted to remain the same, due to pressure from competitors.

During the financial year ended September 2007, the revenue generated from additional charges was 15% of the revenues generated from the "all inclusive" room rate. Additional revenues are generated by customers using facilities which are not included in their "all inclusive" room rate, including all spa treatments, and the tuition fees for a variety of sports. The 2007/08 revenue budget includes a growth in revenue generated by additional charges, to 17% of the revenues generated from the "all inclusive" room rate.

Operating costs

Each hotel is managed by a General Manager who reports directly to Johan Alnetti, the Chief Executive but has functional responsibility to other Directors. Johan Alnetti has instructed the General Manager of each hotel to re-examine its operating costs and to find ways to make savings without any impact on the quality of service or customer perceptions. Furthermore, all of the General Managers are under pressure to achieve the targets set out in Solberri's Corporate Social Responsibility report, which is shown in **Appendix 3** on page 14.

Each General Manager is responsible for procurement at the hotel he or she runs, with little interference from Head Office. However, decisions on the range of spa treatments and sports facilities are the responsibility of Piers Lui, who also determines the prices for all spa treatments and sports which are not included in the "all inclusive" price. The operational aspects of the spa and sports facilities are managed by each General Manager.

Following the change in the pricing structure in early 2007 to the "all inclusive" room rate, there was a substantial fall in administration work and most General Managers achieved the agreed planned reduction in the level of administration staff. Together with the introduction of new IT solutions, which will further simplify administration, each hotel is planning to achieve further cost savings.

Solberri has outsourced many of its routine operations, including laundry, property maintenance and maintenance of pool and sports facilities. The companies Solberri has outsourced these operations to have had Service Level Agreements imposed on them. However, the General Managers at some hotels have had difficulty enforcing the agreed quality service levels. There are still a number of outsourced operations that are not being delivered to the required standard, due to clashes of priorities. For example, a General Manager has insisted that the outsourced maintenance company does not turn off water supplies at certain times to undertake repairs. This has led to the outsourcing company complaining that this has prevented it from carrying out the contracted work in accordance with agreed deadlines.

One of the planned cost savings is the introduction of solar panels at each hotel which it is forecast will be capable of saving around 30% of the electricity costs. However, the required investment for this has repeatedly been delayed. The solar panel proposal is to invest €6 million across the group of 12 hotels. Richard Berriman has delayed the solar panel proposal as he wants all available investment channelled towards improving visible customer facilities.

An analysis of operating costs by main cost categories for the financial year ended 30 September 2007 is as follows:

Cost category	**Financial year ended 30 September 2007**	**%**
	€ million	
Employee costs	62	42%
Food and drink	21	14%
Outsourced functions	15	10%
Marketing costs	20	14%
IT costs	3	2%
Depreciation	15	10%
Other costs	12	8%
Total costs	148	100%

Solberri loan finance

At the end of the financial year ended 30 September 2007, Solberri had loans totalling €33 million, including a loan of €12 million that was due for repayment in December 2007. Antonio Skrip has taken out a new loan for €20 million, which has been secured on 6 specific hotels in the Solberri group including the 2 "Premier" category hotels and 4 of the 7 hotels in the "Superior" category. This new loan is at 10% interest per year and is repayable in December 2014. Therefore, at the end of December 2007, Solberri had loans totalling €41 million.

This new loan for €20 million has been used to repay the loan due for repayment and left €8 million to be used for further capital investment. This €8 million, together with some of the cash generated from operations, will be used to finance the refurbishment and enhanced spa facilities at the 2 "Superior" hotels currently being upgraded to "Premier" status (as outlined above in Investment and refurbishment programme on page 5).

Improvements to Solberri IT systems

Pietro Heys was requested by the Board to review all of Solberri's IT systems when he was appointed to his role in Solberri in April 2006.

The Bookings Management System (BMS) provides information for the management on room rates and availability. In November 2006, Solberri selected and began implementation of a new BMS system and is paying an annual licence fee for the use of a standard internationally recognised bookings software system. This new BMS system is designed to optimise customer management and hotel occupancy rates. Additional specialised functions include sophisticated availability search facilities, itinerary reservations (for spa, restaurant and sports bookings) and customer accounting and billing. This became operational in November 2007.

The Corporate Information System (CIS) is a management tool to provide information to the senior management team both at Head Office and within each hotel. The CIS consolidates information about each customer such as spending patterns, preferred accommodation and leisure facility requests. Other functions include centralised travel agency booking statistics.

The Business Intelligence (BI) system provides a variety of strategic analysis and planning tools for the entire business, in much the same way as an Executive Information System (EIS) does. It extracts data from other Solberri IT systems to enable data analysis. The BI system produces key industry performance indicators (KPI's) for each of the hotels in the group and for the entire group (see above for KPI's). The BI system produces data on ROCE and Revenue per Available Room (RevPAR) (these terms are defined above in KPI's). These KPI's are produced weekly to closely monitor business performance. It also enables the Board to compare the revenues across each of the hotels in the group, and also to compare its KPI's with published data of its competitors.

The total cost of all the IT investment in hardware and software has been €6 million over the last two years and Pietro Heys is confident that Solberri has now got efficient systems in place. However, Solberri has still some further IT projects to undertake to bring it up to the standards of its competitors, let alone for it to be a market leader. The next phase of development will be to introduce some software, which would allow prospective customers to see typical rooms and hotel views and also the range of facilities on offer at all 12 Solberri hotels. The forecast cost of this development is €5 million and Pietro Heys has requested budget allocation for the entire amount in the financial year 2008/09.

Human Resource issues

Solberri operates a human resources policy which is laid down in its procedures manual. This includes procedures on appointment, customer/employee relationships, code of conduct, leave entitlements, termination of employment and workplace health and safety. In order to meet the latest European standards on employee working conditions and terms of employment, Suzanne De Loore is currently updating the procedures manual. This will now include policies on the prevention of drugs and alcohol misuse, sexual harassment, theft and stress. The revised policies will additionally cover environmental awareness and the use of computers. The updated procedures will be implemented in April 2008. The new HR policy will also set clear guidance for managers on the pay rates and working hours for all employees.

The majority of Solberri's employees are temporary employees who are employed only for the Peak season on short-term contracts. Of these temporary employees, over half work for Solberri for one Peak season only and do not return. These are often young people travelling around Europe, who have limited knowledge of the hotel industry and are only working to earn money to continue their travels. These inexperienced employees are working in a range of positions from housekeeping and catering employees to sports instructors. Suzanne De Loore has raised concerns with Richard Berriman that these short-term contract employees do not have job descriptions setting out their areas of responsibility and sometimes they do not possess the core skills required to perform their duties. She is also concerned that the induction programme is not taken seriously by the employees.

The other half of the short-term contract employees are experienced Solberri employees who return each Peak season, as this is their main source of employment in their local area.

The minority of employees are employed on long-term contracts. Many of these have worked for Solberri for over 10 years. These employees have job descriptions and contracts of employment which set out conditions of work including hours, leave, remuneration, benefits, appropriate use of business assets and confidentiality in respect of Intellectual Property.

Customer service and quality management programme

All short-term contract employees receive two days induction training, which includes all aspects of customer service and issues such as health and safety and hygiene awareness. Whilst the majority of the short-term contract employees are hardworking and polite to customers, there are some who do not provide the standard of service expected at Solberri hotels. Despite providing training to all employees, it is clear to hotel General Managers and Board members that the level of service provided by some of the employees is not up to the standard expected. Richard Berriman has made it clear to all employees, as well as hotel General Managers, that this situation must be improved.

Furthermore, the level of customer service expected by Solberri customers is greater now than ever before, as a result of the increasingly high standards being provided in top luxury international hotels. Many customers choose to return to a hotel based on their experience, which can be positively or negatively affected by the level of customer service received during their stay. Possibly as a result of lower than expected customer service, repeat bookings are anticipated to be lower than previously, at only 7.5% during the forthcoming 2008 Peak season.

Suzanne De Loore and Nik Silva are currently working together to update and implement a rolling training programme for all employees of Solberri. All employees will continue to receive basic customer service training. Those employees dealing directly with the customers, such as waiters, receptionists and sports instructors, will attend specifically tailored customer service training sessions. For those employees on longer term contracts, training will be carried out annually. Other initiatives, which are planned to be introduced by June 2008, include an environmental awareness programme and stress management training, which will be available for senior employees and management.

In order to improve employee focus upon quality issues, Suzanne De Loore introduced a quality management initiative in September 2007. As part of this initiative, all employees are required to participate in quality teams, which meet on a monthly basis. Each team is made up of employees from a variety of jobs and levels and each team is responsible for a particular aspect of quality management in the hotel. These multi-disciplinary teams meet for one hour to discuss issues that have arisen during the month and to suggest ways to improve. However, these quality teams have not been popular with employees, as many have seen little evidence of any change occurring as a result of their suggestions and some employees feel that their input is not valued. A further issue is that attendance at these meetings is compulsory, regardless of whether the employee is scheduled to be working on that day.

The results of the latest customer survey, compared to 2006 results and the target for 2010 is shown in **Appendix 4** on page 15.

Solberri shareholders

The Solberri hotel group was founded in the 1980's and became listed in 1998. The company has 24 million shares of €0.50 each in issue and has a total of 50 million authorised shares. Suzanne De Loore launched an employee share scheme in 2001 and all long-term contract employees receive free shares at the end of each financial year dependent on a range of performance related indicators.

Solberri's shares are owned by a number of institutional investors as well as other shareholders. The shareholdings at the end of the last financial year, 30 September 2007, are as follows:

	Number of shares held (million)
Institutional investors	9.2
Other shareholders	3.8
Richard Berriman (Chairman)	7.2
Directors	3.6
Employees	0.2
Total	24.0

Solberri's share price at 31 December 2007 was €4.47. The highest share price for the preceding 12 months was €5.33 and the lowest was €3.57. The highest share price that Solberri has achieved was in 2002 when the shares were traded for over €10.00 per share.

Solberri's key personnel

Richard Berriman – Chairman
Richard Berriman, aged 46, grew up in a family which owns and operates a chain of restaurants. He has been involved in the leisure industry for all of his working life. He has no formal qualifications, but has much practical experience at all levels. His ambition was always to operate a small hotel chain and he was very proud when the Solberri group was listed. Since 2006 he has been under much pressure from shareholders to turn the business around. He has recruited an experienced new Chief Executive, Johan Alnetti, who he respects greatly and they work well together.

Johan Alnetti - Chief Executive
Johan Alnetti, aged 36, joined the Solberri group in September 2006 following a decline in occupancy level and a substantial fall in group profits over the previous few years. He has previously managed a small chain of hotels and relished the challenge of turning around the fortunes of the Solberri group. He is very decisive, has many innovative ideas and is not afraid of making difficult decisions in order for Solberri to compete effectively.

Giorgi Kahle - Director of Sales and Marketing
Giorgi Kahle, aged 40, joined Solberri in late 2004 and has made significant changes in the way that the Group's hotels are marketed. He has raised the profile of many of the resort hotels and has been a keen supporter of the changes being made by the new Chief Executive, Johan Alnetti. He is under much pressure to increase customer numbers and to increase the occupancy level, but has struggled to achieve this in the face of competition, and the need for Solberri to refurbish many of the hotels in the group. Giorgi Kahle is also working with a number of international companies to try to secure bookings as part of their employee reward systems.

Antonio Skrip - Group Finance Director
Antonio Skrip has been with Solberri since 1995 and was instrumental in the company achieving a listing. Since then he has been under pressure from its shareholders to deliver the high levels of dividends that they expect. Following the operating losses in the financial years ending September 2005 and 2006, he has worked hard, as part of the management team, to try to improve the finances of the group and to make it once again become a cash generator.

Pietro Heys - Group IT Director
Pietro Heys, aged 32, is the youngest member of the Board and joined Solberri early in 2006. He was recruited to improve the quality and timeliness of information available for all twelve hotels and to implement a new Business Intelligence (BI) System. He is continuing to select and implement innovative IT solutions to improve Solberri's ability to compete.

Dimitri Vitt - Director of Design
Dimitri Vitt, aged 35, has been involved with design for many years. He was recruited by Johan Alnetti in December 2006, due to his excellent reputation for innovative designs. He has inspected all aspects of all of the hotels in the group and has a long list of changes that he would like to make to improve the ambience and standards of reception areas and bedrooms. He would like to have themed sections for each hotel, with customers being given the choice of room design. He has also worked closely with the group's external architects on the design for the extended spas.

Piers Lui – Leisure Facilities Director
Piers Lui was recruited into the Solberri group in 2005, as Richard Berriman considered that the Solberri hotels were not being innovative enough and that this was leading to the decline in the number of customers. Piers Lui had been responsible for the facilities at a world class hotel in Asia and wanted to expand his responsibilities across a hotel group in Europe. He is responsible for the selection and operation of all leisure facilities at Solberri hotels.

Suzanne De Loore - Human Resource Director

Suzanne De Loore, aged 38, has worked in the hotel industry all her career and is familiar with the many roles and requirements of the industry. She joined the group in 1997 just before the company was listed. She was initially very pleased with the prestige of the group and the treatment of its employees. However, despite her continued hard efforts to recruit and retain people with appropriate skills, she is now disappointed and rather de-motivated because the group has seen a decline in its popularity. Richard Berriman does not have a good relationship with her, and considers her to be too protective of all employees rather than the reputation of the group. She is admired for her fairness and respected by all employees.

Nik Silva – Director of Customer Service

Nik Silva, aged 40, was recruited by Johan Alnetti in early 2007, as Johan Alnetti did not consider that customer service was given the high profile in the group that it required. Previous to his appointment, each of the hotel General Managers was responsible for customer service at the hotels each managed. Nik Silva wants to raise the standard of service provided and to implement best practice across all hotels in the group. He also wants to improve the management training programme, and is working closely with Suzanne De Loore to prepare and implement an improved programme, which will affect all employees, not only customer facing employees, as he considers that only by involving all employees can standards be raised.

Anna Roet – Director of Property Management

Anna Roet has worked for the Solberri group for over 22 years and has managed the increased portfolio of properties, from the original 2 hotels, up to the current 12 hotels. She liaises closely with a range of external agencies and construction companies, who undertake all of the routine property maintenance and repair work.

Hotel General Managers

The company also employs a General Manager for each of its 12 hotels. They have responsibilities to each of the functional directors, but report directly to the Chief Executive. The Hotel General Managers do not have Board responsibility. They are responsible for the day-to-day operations at each of the hotels in the group. They liaise closely with Nik Silva, the Director of Customer Service, in order to provide feedback from customers and to inform Nik Silva of current problems.

Non-executive directors

Solberri has four non-executive directors. The four non-executive directors hold various other directorships in the travel and leisure industry and are based in Europe. Two of the non-executive directors are members of Richard Berriman's family.

Appendix 2

Solberri's Balance Sheet, Income Statement and Statement of Changes in Equity

Balance Sheet	**As at 30 September 2007**		**As at 30 September 2006**	
	€ million	**€ million**	**€ million**	**€ million**
Non-current assets (net)		**136**		**123**
Current assets				
Inventory	14		11	
Trade receivables and prepayments	9		7	
Cash and cash equivalents	3		2	
		26		**20**
Total assets		**162**		**143**
Equity and liabilities				
Equity				
Share capital	12		12	
Share premium	28		28	
Revaluation reserve	30		10	
Retained earnings	18		15	
		88		**65**
Non-current liabilities				
Loans:				
Loan at 10% (repayable in December 2007)	-		12	
Loan at 8% (repayable in September 2010)	6		6	
Loan at 11% (repayable in June 2012)	15		15	
		21		**33**
Current liabilities				
Bank overdraft	-		2	
Loan at 10% (repayable in December 2007)	12		-	
Trade payables and accruals	28		35	
Customers' deposits (for future bookings)	10		8	
Tax	3		-	
		53		**45**
Total Equity and liabilities		**162**		**143**

Note: Paid in share capital represents 24 million shares of €0.50 each at 30 September 2007

Income Statement	**Year ended 30 September 2007 € million**	**Year ended 30 September 2006 € million**
Revenue	159	138
Total operating costs	148	145
Operating Profit / (Loss)	11	(7)
Finance costs	3	3
Tax expense (effective tax rate is 32%)	3	0
Profit / (Loss) for the period	**5**	**(10)**

Statement of Changes in Equity	**Share capital**	**Share premium**	**Revaluation reserve**	**Retained earnings**	**Total**
	€ million	**€ million**	**€ million**	**€ million**	**€ million**
Balance at 30 September 2006	12	28	10	15	65
Profit for the period	-	-	-	5	5
Revaluation reserve	-	-	20	-	20
Dividends paid	-	-	-	(2)	(2)
Balance at 30 September 2007	**12**	**28**	**30**	**18**	**88**

Appendix 3

Corporate Social Responsibility Report for year ended September 2007

	Achievements in year ended September 2007	**Targets for years ended September 2008 to 2010**
Environmental Policy Solberri is committed to its focus on green initiatives, focusing upon green policies, monitoring and reducing consumption levels and converting environmental efforts into cost-reduction and revenue generating opportunities	• 1 hotel won a Bronze Award in the Green Tourism Business Awards 2007 • 90% of employees trained in environmental awareness during induction	• Appointment of an Environmental Director • Investigate and implement new technologies to improve efficiency in energy and waste management processes • Work with suppliers to encourage them to operate in an environmentally responsible manner • Environmental responsibility to become a condition for all suppliers and outsourcing companies.
Resources Solberri intends to reduce its use of water and materials through awareness programmes and through the design of new buildings, equipment and better working practices	• Introduction of dual flush toilets in 8 of the 12 hotels • 2 dedicated recycling units set up • Reduced electricity consumption by 0.5% across all hotels • Recycling of 80% of plastic , paper, cardboard, glass, waste cooking oil • Customers choose to retain 60% of towels each day, and only request that these towels are changed after the second day • 90% of all light bulbs replaced with energy efficient alternatives	• Re-use / donation of all viable furniture and fittings when furniture and fittings are replaced • Installation of energy efficient windows and solar panels to improve thermal performance of all new building work • Recycling of 90% of plastic, paper, cardboard, glass, waste cooking oil and toner cartridges by 2010 • To save 90% of towels for changing after second day • 100% of all light bulbs replaced with energy efficient alternatives
Working with local communities Solberri is committed to working with its local communities, to build strong relationships and to encourage partnerships with local business and industry	• Sponsorship of local community gardens at 6 locations • 70% of fresh produce sourced from local suppliers	• To continue to support charitable organisations both locally and internationally. • Sourcing of 100% of fresh produce from local suppliers
Health and Safety Solberri continues to apply high standards of health and safety to all employees and customers. The company strives to provide a safe environment.	. • 100% of newly recruited employees trained in Health & Safety issues • 2% reduction in reported employee accidents	• Provision of annual training programmes in Health and Safety for all employees • Further reduction in employee accidents to no more than 5 minor accidents per year and 0 major accidents

Appendix 4

Results of customer feedback survey 2007

The data in this Appendix is based on survey information for the last 2 years. It should be noted that customer feedback surveys are completed for fewer than half of the rooms booked. However, the Solberri Board is committed to improving the percentage of customers that rate the facilities or service as excellent, although it is aware that this is a challenging task.

	Actual Year ended September 2006	**Actual Year ended September 2007**	**Target Year ended September 2010**
	Rated as "Excellent" by customers	Rated as "Excellent" by customers	Rated as "Excellent" by customers
Overall assessment of hotel service:			
1. Level of overall customer service you received in the hotel	15%	18%	50%
2. Overall standard of your room	16%	20%	50%
Overall assessment of leisure facilities:			
3. Range of sporting and leisure facilities at the hotel	16%	19%	50%
4. Overall standard and quality of the leisure and sporting facilities at the hotel	16%	21%	50%
Overall Assessment of the Spa Facilities:			
5. Overall standard of the spa facilities	10%	11%	60%
6. Range of treatments at the Spa facilities	9%	12%	60%
7. Quality of treatments in the Spa facilities	10%	7%	60%

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Solberri – Unseen material provided on examination day

Additional (unseen) information relating to the case is given on pages 19 to 22.

Read all of the additional material before you answer the question.

ANSWER THIS QUESTION

You are the consultant appointed by the Solberri Board.

Prepare a report that prioritises, analyses and evaluates the issues facing Solberri, and makes appropriate recommendations.

Note: *The TOPCIMA Assessment Matrix, against which your script will be marked, is on the next page for your reference.*

March & May 2008 – Assessment Matrix for TOPCIMA – Solberri Hotel Case

Criterion	Marks	Clear Pass	Pass	Marginal Pass	Marginal Fail	Fail	Clear Fail
Technical	**5**	Thorough display of relevant technical knowledge. **5**	Good display of relevant knowledge. **4**	Some display of relevant technical knowledge. **3**	Identification of some relevant knowledge, but lacking in depth. **2**	Little knowledge displayed, or some misconceptions. **1**	No evidence of knowledge displayed, or fundamental misconceptions. **0**
Application	**15**	Knowledge clearly applied in an analytical and practical manner. **13-15**	Knowledge applied to the context of the case. **9-12**	Identification of some relevant knowledge, but not well applied. **8**	Knowledge occasionally displayed without clear application. **6**-7	Little attempt to apply knowledge to the context. **3-5**	No application of knowledge displayed. **0-2**
Diversity	**5**	Most knowledge areas identified, covering a wide range of views. **5**	Some knowledge areas identified, covering a range of views. **4**	A few knowledge areas identified, expressing a fairly limited scope. **3**	Several important knowledge aspects omitted. **2**	Many important knowledge aspects omitted. **1**	Very few knowledge aspects considered. **0**
Focus	**5**	Clearly distinguishes between relevant and irrelevant information. **5**	Information used is mostly relevant. **4**	Some relevant information ignored, or some less relevant information used. **3**	Information used is sometimes irrelevant. **2**	Little ability to distinguish between relevant and irrelevant information. **1**	No ability to distinguish between relevant and irrelevant information. 0
Prioritisation	**10**	Issues clearly prioritised in a logical order and based on a clear rationale. **9-10**	Issues prioritised with justification. **6- 8**	Evidence of issues being listed in order of importance, but rationale unclear. **5**	Issues apparently in priority order, but without a logical justification or rationale**.** **3-4**	Little attempt at prioritisation or justification or rationale. **1-2**	No attempt at prioritisation or justification. **0**
Judgement	**20**	Clearly recognises alternative solutions. Judgement exercised professionally. **16-20**	Alternative solutions or options considered. Some judgement exercised. **11-15**	A slightly limited range of solutions considered. Judgement occasionally weak. **10**	A limited range of solutions considered. Judgement sometimes weak. **5-9**	Few alternative solutions considered. Judgement often weak. **1-4**	No alternative solutions considered. Judgement weak or absent. **0**
Integration	**10**	Diverse areas of knowledge and skills integrated effectively. **9-10**	Diverse areas of knowledge and skills integrated. **6-8**	Knowledge areas and skills occasionally not integrated. **5**	Knowledge areas and skills sometimes not integrated. **3-4**	Knowledge areas and skills often not integrated. **1-2**	Knowledge areas and skills not integrated. **0**
Logic	**20**	Communication effective, recommendations realistic, concise and logical. **16-20**	Communication mainly clear and logical. Recommendations occasionally weak. **11-15**	Communication occasionally unclear, and/or recommendations occasionally illogical. **10**	Communication sometimes weak. Some recommendations slightly unrealistic. **5-9**	Communication weak. Some unclear or illogical recommendations, or few recommendations. **1-4**	Very poor communication, and/or no recommendations offered. **0**
Ethics	**10**	Excellent evaluation of ethical aspects. Clear and appropriate advice offered. **9-10**	Good evaluation of ethical aspects. Some appropriate advice offered. **6-8**	Some evaluation of ethical aspects. Advice offered. **5**	Weak evaluation of ethical aspects. Little advice offered. **3-4**	Poor evaluation of ethical aspects. No advice offered. **1-2**	No evaluation of ethical aspects. Unethical, or no, advice offered. **0**
TOTAL	**100**						

Forecast of high booking levels for the 2008 Peak season

The Solberri group of 12 hotels has achieved a very high level of advance bookings for the 2008 Peak season, following a pre-Peak season marketing campaign, which has proved to be very successful. Solberri was the winner of a holiday award on a European TV travel programme, which has stimulated a higher number of bookings. Several additional mail-shots were also made and these appear to have been very effective in terms of generating a substantial number of bookings across all 12 Solberri hotels. Solberri has contributed towards a joint marketing campaign with two travel agents. The majority of the bookings made by travel agents in the 2007 Peak season were made through these two travel agents.

Due to Solberri’s effective marketing campaigns, it is forecast that the average occupancy level during the 2008 Peak season will be 95% across all hotels, compared to 74% in the 2007 Peak season.

For the 2008 Peak season there are now 4 “Premier” hotels (following the refurbishment and extension of spas facilities at 2 hotels during the last Non-peak season). These 4 “Premier” hotels are fully booked (100% occupancy level) for some weeks during the current 2008 Peak season and the other Solberri hotels are forecast to be around 92% full.

Nik Silva, the Director of Customer Service, has been reviewing an analysis of the 2007 customer service questionnaires (summarised in Appendix 4 of the Pre-seen material) from all 12 hotels and has identified some problems associated with poor quality. These are due to a shortage of fully trained, skilled employees in a number of areas. Although all new employees are trained in customer service during induction, there still seems to be a problem with the level of service being provided. In addition, Nik Silva is reviewing staffing levels in order to meet the demands from the high bookings for the current 2008 Peak season.

Several senior managers working within the hotels have had to take time off during the last year due to stress. One General Manager is currently on long term sick leave as a result of stress. Many of the hotel senior managers work more than 16 hours each day during the Peak season, despite their employment contracts stating that maximum working hours per day should be no more than 12 hours. Additionally, most General Managers state that allowing their hotel senior managers to take their contractual days off is difficult, as the hotels are severely understaffed in terms of senior management employees.

Cash forecast

Following the recent high level of bookings, Antonio Skrip has prepared an updated forecast which shows post-tax profit for the year ended September 2008 will be €27 million. This large increase in profit is due to many of the costs being fixed. Therefore, the forecast increased occupancy level will have a direct positive impact on profitability.

This forecast would result in cash generated from operations for the year ended 30 September 2008 of €59 million, before finance costs, tax and dividends.

At the Solberri Board meeting in early May 2008, there was some discussion of how the cash generated from operations for the financial year ended September 2008 could be used. The Board has a choice of a number of alternative proposals including:

- Proposal A - Extend the number of rooms at "Premier" hotels (see proposal below)
- Proposal B - Invest in refurbishment and extended spa facilities at the remaining hotels (see proposal below)
- Proposal C - Acquire an additional resort hotel (see proposal below)
- Proposal D - Invest in environmentally friendly initiatives (see proposal below)

Following the announcement of Solberri's high booking levels, its share price rose. Solberri's current share price, at Friday 16 May 2008, was €6.25.

Proposal A – Extend the number of rooms at "Premier" hotels

The Board is considering extending the number of rooms at some, or all, of the 4 "Premier" hotels. Some of these 4 "Premier" hotels are fully booked for some weeks during the Peak 2008 season.

There is adequate space within the grounds of each of these 4 "Premier" hotels for the construction of an additional 200 rooms and supporting facilities. This proposal would increase the number of rooms across these 4 "Premier" hotels from 900 rooms to 1,700 rooms. This would increase capacity of the Solberri group of 12 hotels to 3,150 rooms if all 4 "Premier" hotels were to be extended. The forecast cost of expanding the accommodation is €9 million at each of the "Premier" hotels.

Antonio Skrip, the Finance Director, considers that the expansion of these 4 "Premier" hotels should proceed, as the proposal is forecast to generate an NPV of €10 million for each hotel, over a 5 year period. This is based on achieving a forecast occupancy level in the Peak season of 80% for each expanded hotel.

However, Giorgi Kahle, the Director of Sales and Marketing, does not believe that customers will accept the more crowded and less exclusive environment resulting from this proposal. He has also questioned whether the Peak season 80% occupancy level for the expanded "Premier" hotels can be achieved.

Proposal B - Invest in refurbishment and extended spa facilities at the remaining hotels

Richard Berriman is keen to bring forward the capital investment programme to refurbish and extend the spa facilities at all of the remaining 8 Solberri hotels. The 4 "Premier" hotels have been refurbished and have had extended spa facilities built over the last 2 Non-peak seasons. Under the current agreed capital expenditure plan, a further 2 "Superior" hotels will be refurbished and have their spa facilities extended during the next Non-peak season, later in 2008 to 2009. Following the success of the spas at 2 "Premier" hotels during 2007 and the high level of bookings at the 4 "Premier" hotels during the 2008 Peak season, it is proposed to bring the refurbishment programme forward.

The forecast cost of the refurbishment and extension of spa facilities at the remaining 8 Solberri hotels is €6 million each. As a result of the proposed refurbishment and extension of spa facilities, the "Superior" hotels would be re-categorised to "Premier" and the "Super plus" hotels would be upgraded to "Superior".

However, the 3 "Super plus" Solberri hotels have very limited space available to extend the spa facilities, unless some of the existing accommodation space is used. In order to extend the spas at the 3 "Super plus" hotels, a total of 10% of the accommodation, 15 rooms in each hotel, would need to be closed permanently. The operating profit for the 3 "Super plus" hotels was €0.6 million for all 3 hotels for the year ended September 2007.

Proposal C - Acquire an additional resort hotel

A hotel in a very popular coastal resort location has been put up for sale as the current owner is retiring. Giorgi Kahle, Solberri's Director of Sales and Marketing, is proposing that Solberri should acquire it. The forecast NPV's using varying occupancy levels for the important Peak season for this proposal, based on 10 years post-tax cash flows have been prepared (by Giorgi Kahle and Antonio Skrip). The NPV figures shown below include all relevant cash flows for the Peak and Non-peak seasons, but the NPV figures vary directly according to the Peak season occupancy levels.

Peak season occupancy level	**NPV € million**	**Probability**
95%	100.0	25%
80%	35.0	60%
50%	(25.0)	15%

The post-tax cost of acquiring this hotel is forecast to be €5 million. It would need extensive refurbishment which is forecast to cost €16 million (post-tax) to bring it up to the standard of a Solberri "Premier" hotel and it would have 250 rooms. These capital costs are included in the above NPV's.

Additionally, because the hotel has been in need of major refurbishment for some time, Giorgi Kahle has forecast that additional one-off marketing costs of €3 million, post-tax, would be required to re-launch the hotel as part of the Solberri group. This is not included in the NPV's above.

Proposal D - Invest in environmentally friendly initiatives

Luc Pinard, Solberri's newly appointed Environmental Director, has prepared a proposal to invest in a range of technology to improve Solberri's environmental profile. Many companies are facing the challenges of reducing their damage to the environment. Luc Pinard would like Solberri to change the way it operates in order to become more environmentally friendly. He considers that his environmentally friendly proposal is the correct business stance for Solberri and that it could also lead to higher bookings as customers become more aware of environmental issues.

Luc Pinard's proposal is to invest in a range of environmentally friendly initiatives with a total cost in the financial year ending September 2009 of €15 million. The proposal includes the installation of solar panels at all 12 hotels at a cost of €6 million. The investment in solar panels at each hotel has repeatedly been delayed due to lack of financing. It is forecast that this could save 30% of the electricity costs, which would result in an annual saving of €0.6 million. In addition, he would like to invest €9 million in a range of other environmental initiatives, including improved management of waste, IT solutions to reduce electricity usage and improved employee training on environmental issues.

Fall in spa revenues at one "Premier" hotel

The spa manager at one of the "Premier" hotels left Solberri at the end of April 2008 and has established her own spa business less then 500 metres outside of the hotel. Her contract did not prevent her from establishing a business so close. This has led to a reduction in spa bookings at this "Premier" hotel and resulted in spa revenues falling by 8% over the last 3 weeks.

Finance Director resigns

There have been a number of Board room disputes in recent months and Antonio Skrip has resigned. With the agreement of Johan Alnetti, Antonio Skrip left Solberri on 16 May, serving only 1 week of his contractual 3 month notice period.

Loan covenant restriction

Johan Alnetti has only just discovered that the €20 million loan that was negotiated at the end of 2007 has loan covenants stating that no further loan finance can be taken on at all within a 2 year period from December 2007.

Distribution of tips

All of the 12 Solberri hotels have a range of evening entertainment facilities, including dining rooms, function rooms, lounges, outside terraces and bars. Most of these facilities are staffed by short-term contract employees who rely upon the tips left by customers to supplement their basic wages. It is accepted policy throughout the Solberri group that all tips left in cash are distributed only to customer facing employees who worked that evening.

However, at one "Superior" hotel, the General Manager has instructed his managers to hand all tips into his office at the end of each day. The tips are then distributed to all employees, irrespective of whether they were on duty that evening. He believes that this encourages more of a team spirit and rewards employees who are not customer facing. However, the customer facing employees who work evening shifts at this hotel are very unhappy about the changed way of distributing the tips. Furthermore, they do not trust the management to distribute all of the tips that are collected. This changed method of distributing tips has had an adverse effect on customer service at this hotel.

Appointment of a consultant

At the Solberri Board meeting held in May 2008 it was agreed that a consultant would be appointed to advise the Board on the issues facing Solberri.

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APPLICABLE MATHS TABLES AND FORMULAE

Present value table

Present value of 1.00 unit of currency, that is $(1 + r)^{-n}$ where r = interest rate; n = number of periods until payment or receipt.

Periods	Interest rates (*r*)									
(*n*)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149

Periods	Interest rates (*r*)									
(*n*)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.079	0.065
16	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026

Cumulative present value of 1.00 unit of currency per annum, Receivable or Payable at the end of each year for *n* years $\left[\frac{1-(1+r)^{-n}}{r}\right]$

Periods	Interest rates (*r*)									
(*n*)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
19	17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
20	18.046	16.351	14.878	13.590	12.462	11.470	10.594	9.818	9.129	8.514

Periods	Interest rates (*r*)									
(*n*)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	7.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870

FORMULAE

Valuation Models

(i) Irredeemable preference share, paying a constant annual dividend, d, in perpetuity, where P_0 is the ex-div value:

$$P_0 = \frac{d}{k_{pref}}$$

(ii) Ordinary (Equity) share, paying a constant annual dividend, d, in perpetuity, where P_0 is the ex-div value:

$$P_0 = \frac{d}{k_e}$$

(iii) Ordinary (Equity) share, paying an annual dividend, d, growing in perpetuity at a constant rate, g, where P_0 is the ex-div value:

$$P_0 = \frac{d_1}{k_e - g} \text{ or } P_0 = \frac{d_0[1+g]}{k_e - g}$$

(iv) Irredeemable (Undated) debt, paying annual after tax interest, i (1-t), in perpetuity, where P_0 is the ex-interest value:

$$P_0 = \frac{i[1-t]}{k_{d\text{net}}}$$

or, without tax:

$$P_0 = \frac{i}{k_d}$$

(v) Future value of S, of a sum X, invested for n periods, compounded at r% interest:

$$S = X[1+r]^n$$

(vi) Present value of £1 payable or receivable in n years, discounted at r% per annum:

$$PV = \frac{1}{[1+r]^n}$$

(vii) Present value of an annuity of £1 per annum, receivable or payable for n years, commencing in one year, discounted at r% per annum:

$$PV = \frac{1}{r}\left[1 - \frac{1}{[1+r]^n}\right]$$

(viii) Present value of £1 per annum, payable or receivable in perpetuity, commencing in one year, discounted at r% per annum:

$$PV = \frac{1}{r}$$

(ix) Present value of £1 per annum, receivable or payable, commencing in one year, growing in perpetuity at a constant rate of g% per annum, discounted at r% per annum:

$$PV = \frac{1}{r - g}$$

Cost of Capital

(i) Cost of irredeemable preference capital, paying an annual dividend, d, in perpetuity, and having a current ex-div price P_0:

$$k_{pref} = \frac{d}{P_0}$$

(ii) Cost of irredeemable debt capital, paying annual net interest, $i(1 - t)$, and having a current ex-interest price P_0:

$$k_{dnet} = \frac{i[1 - t]}{P_0}$$

(iii) Cost of ordinary (equity) share capital, paying an annual dividend, d, in perpetuity, and having a current ex-div price P_0:

$$k_e = \frac{d}{P_0}$$

(iv) Cost of ordinary (equity) share capital, having a current ex-div price, P_0, having just paid a dividend, d_0, with the dividend growing in perpetuity by a constant g% per annum:

$$k_e = \frac{d_1}{P_0} + g \quad \text{or } k_e = \frac{d_0[1 + g]}{P_0} + g$$

(v) Cost of ordinary (equity) share capital, using the CAPM:

$$k_e = R_f + [R_m - R_f]ß$$

(vi) Weighted average cost of capital, k_0:

$$k_0 = k_e\left[\frac{V_E}{V_E + V_D}\right] + k_d\left[\frac{V_D}{V_E + V_D}\right]$$

P10 – Test of Professional Competence in Management Accounting

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