

P10 – Test of Professional Competence in Management Accounting

Tuesday 6 March 2007

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 begin using your computer to produce your answer 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 13, which is detachable for ease of reference.
The TOPCIMA Assessment Matrix, which your script will be marked against, is on page 14.
Maths Tables and Formulae are provided on pages 21 to 24.
Your computer will contain two blank files – one Word and an Excel file. Please ensure that you check that the file names for these two documents correspond with your candidate number.

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TURN OVER

Flyqual Airlines

Introduction

Flyqual Airlines (FQA) is a member of N, an aviation alliance which includes another seven airlines based in different regions of the world. The purpose of the alliance is to extend a large range of travel opportunities to passengers of each constituent airline and FQA is now able to provide travel to over 500 destinations throughout the world by using alliance partners' routes. The benefits include more choices of flights to suit the passengers' travel requirements, easier transfers between member airlines and access to their passenger lounges, priority check-in at airport terminals and enhancement of frequent flyer programmes. Greater frequency of flights is provided by the various codeshare agreements which FQA has entered into with various airlines which operate both within and outside the N alliance. A codeshare agreement is where flights to a particular destination are operated by an airline which accepts passengers who have purchased tickets from other airlines.

As its name implies, FQA prides itself on providing a first rate passenger service and enjoys a strong reputation for quality service to passengers. As a consequence, FQA does not need to apply a low pricing policy for airline travel in response to sensitivity of market demand and is able to charge premium prices. Established just after the Second World War, FQA itself now flies to over 100 destinations worldwide from its home base in Asia and employs over 20,000 people around the world as aircrew, cabin attendants, maintenance staff, airport check-in operatives and ground staff.

Two large listed companies together hold the majority of the shares of FQA and the company is listed on its home stock exchange. These two companies are not themselves engaged in the airline industry although one of them does have subsidiaries whose business is in the export of goods.

FQA holds a 45% shareholding in a smaller airline. This smaller airline is not a member of the N alliance and engages mainly in short-haul scheduled and cargo flights around the Asia-Pacific region. FQA does undertake some short-haul schedules in the Asia-Pacific region but its principal business is in long-haul intercontinental flights to the USA and Europe.

Future demand for passenger air travel

Some airlines offer services at both the high quality and the basic "with no extras", so called "low-priced" or "no frills" end of the market. FQA has chosen to offer services at the high quality end of the market only.

The largest consumer markets over the next two decades are likely to be China and India. This is expected to result in large growth in air travel to and from, and within these countries. This is likely to be generated by increasing wealth within the economies of these two countries in particular and continued inward investment from other parts of the world.

It is normal for increased air travel in emerging economies to begin with increases in domestic demand followed by international demand as income levels rise and greater inward investment takes place. Major centres of population and business tend to generate strong development of air traffic. It is estimated that 80% of air traffic between Europe and Asia is carried between only 17 major cities.

It is estimated that by the mid 2020's three-quarters of the entire world fleet of very large aircraft will be used on flights from the largest airports in the world and 60% of these airports are situated in the Asia-Pacific region.

Future demand for air cargo

Demand for international cargo services is also expected to increase in areas of high population and industrial growth.

Demand for air cargo is influenced by the nature of the goods being transported, for example the need to transport perishable foods quickly. However, high value goods which are demanded in very quick time, such as high technology equipment have also grown and represent about 75% of the financial value of exports from Asia but only 40% of exports in terms of weight. This has resulted in significant growth in demand for air cargo. For example, about 25% of high technology equipment by value was transported by air from China to Europe in the mid 1990's. A decade later, this had risen to 60%.

Aircraft replacement within the industry

Traditionally, replacement of aircraft has been a result of economic cycles and developments of aircraft technology. Fuel prices have also had a major influence on aircraft replacement. Aircraft retirements on a large scale began to take place in 2002 following a slow-down in global demand. Many airlines replace passenger aircraft before the end of their economic life in order to take advantage of new technology. Market conditions, legislation on noise and exhaust emissions and strengthening competition have resulted in an increasing demand by airlines for more fuel efficient and quieter aircraft. Some forecasts state that by the mid 2020's only about 15% of the fleet which currently exists will still be operated by airlines across the world.

FQA's fleet of aircraft

The aircraft which FQA operate are all manufactured by either F (based in the USA) or C (based in Europe). The fleet of 170 aircraft is as follows:

	<i>Leased</i>	<i>Owned</i>	<i>Seating capacity per aircraft</i>
F 858	27	36	500
F 888	9	22	270
C 440	14	30	320
C 450	10	22	450

Of the 27 leased F 858 aircraft, seven are employed entirely for carrying cargo. The F 888 can be converted to fly long-haul, although it is normally used on short-haul routes. For conversion to long-haul, the F 888 would reduce the passenger capacity by 100 seats. The C 440 is used exclusively on short-haul routes. There are a number of aircraft whose leases are due to expire over the next two years.

Replacement of some of the fleet

A major dilemma faced by FQA, as well as other airlines, is which aircraft should it now procure in order to replace the ageing aircraft in its fleet. FQA could acquire newer models of the same type of aircraft which it currently has in service or obtain replacements from the next generation of aircraft which are being developed. In considering this matter, the directors of FQA need to take into account the way the airline industry is moving and the increasing trend for larger aircraft carrying more passengers and having a greater range capability. F and C are the leading manufacturers of passenger aircraft and are bitter rivals. Both F and C have produced prototypes of the next generation of passenger aircraft. The F 898 has a smaller capacity in terms of passengers carried than the C 491 but, in general terms, has greater flexibility. This is due to the F 898 being capable of reaching more destinations than its C rival as it is smaller and makes less demand on airports in terms of the infrastructure that is required to accommodate it. On the other hand, the C 491 can carry 600 passengers which is double the number which the F 898 can seat. Both aircraft have a similar range.

The C 491 will operate on a "hub" system whereby the aircraft will land at a central location in each country or region which then permits passengers to transfer to other flights to reach their final destinations. However, the C 491 is a major double-decked aircraft which requires considerable investment in airport infrastructure to operate. In addition to the requirement for longer runways for take off and landing, the C 491 will not be able to use the existing airport gates for access to and egress from the aircraft because it is too far off the ground. On the other hand, the F 898 may take off and land on the conventional length of runway which will accommodate the current aircraft in FQA's fleet. As it is a single-decked aircraft it will also be able to use the gates which are currently available in airports.

The Board of FQA must decide whether it should:

- invest in the C 491 and be able to transport more passengers in a single flight but which may result in a degree of inconvenience to passengers as they will need to transfer to other flights for onward travel; or
- obtain the F 898 with the smaller passenger capacity, which has the same range as the C 491, but is able to land at more destinations.

The directors of FQA must consider the economies of scale associated with the larger passenger aircraft and the consequent loss of flexibility. In addition, with regard to the F 898, FQA needs to take account of the increased costs of paying more in landing charges for operating at a larger number of final destinations. This is a major item of cost bearing in mind that some countries offer landing slots to airlines on a bid system. Some landing slots at major airports in the world which are located in popular destinations are extremely expensive.

Other issues which need to be considered by FQA include:

- expected levels of passenger demand over the period of the life of whichever aircraft it procures;
- the impact of competition over that period within the airline industry;
- the cost of manpower;
- re-training and operational costs such as fuel.

A further consideration is how other competitor airlines are likely to respond to the dilemma, as they all face the same issue of replacement of their fleets at some time or another. If the trend of the world's airlines favours one aircraft over the other, then FQA does not want to be committed to obtaining the aircraft which are less favoured by other airlines. This may cause spare parts to be less available and at a higher cost. However, FQA is itself an influencer given its market position and other airlines are likely to take account of the decision made by the FQA Board in making their own choices.

FQA Board members

Chairman:

Appointed Company Secretary in 1990, then a director in 1994 after relinquishing Company Secretary role. Appointed Chief Executive in 1998 and Chairman in 2005. Lawyer by profession and was a barrister specialising in aviation law until becoming Company Secretary in 1990. Holds 3 million shares in FQA.

Chief Executive:

Joined group in 1975 and has been a director since 1995. Holds 5 million shares in FQA.

Chief Operating Officer:

Was a pilot until 1993 and has worked with FQA in operational matters since then. Was sponsored by FQA to take a post graduate degree in Operational Management at an "Ivy League" University in the USA in 1993/4.

Finance Director:

Joined the group in 1998 and is a qualified CIMA accountant. Previously she held posts in the airline industry in Europe where she had good contacts in respect of obtaining investment capital. While working for a European airline, she successfully established a subsidiary low-priced airline but returned to her roots in the Far East for domestic reasons.

Engineering Director:

Previously employed by the International Civil Aviation Organisation and joined the group in 1992. He is an Aeronautical Engineer by profession. Holds 3 million shares in FQA.

Director of Sales and Marketing:

Held a variety of posts with FQA since 1988 and is a member of a recognised professional body in marketing having been senior sales manager for a rival airline until her appointment to FQA.

Director of HRM:

Appointed in 1996 from the board of a multi national conglomerate and is a member of a recognised professional body in the field of personnel management.

Director of Corporate Development:

Joined FQA as a management trainee in 1982 and is responsible for corporate planning. Holds 5 million shares in FQA. He has held a number of senior management roles in FQA and worked his way up the organisation culminating in being appointed to the Board in 2003.

Director of Service Delivery:

Has dual role as manager of Corporate Communication and also responsible for Information management. Her academic background is that she holds a PhD in software development and joined FQA in 1999.

Director of Quality Management:

Joined the group in 1984 and has no formal qualifications. Currently has responsibility for quality assurance and catering contracts. Holds 2 million shares in FQA.

All executive directors of FQA have share options.

There are also 12 non-executive directors on the FQA Board.

New terminal

One area of which the Board is particularly proud is FQA's reputation for being one of the most punctual and safest airlines in the world. This in turn has given rise to national pride and the government has provided financial support in terms of grants and loans particularly in regard to a new terminal development at the airport in the capital city in FQA's home country. This airport is owned and operated by an airport authority which is independent of FQA.

In 2008, the airport in the capital city of FQA's home country plans to open a new passenger terminal which would be dedicated for the use of the airline. This will permit rationalisation of staff resources to take place, enabling FQA's ground passenger service staffing levels to be reduced. However, no negotiations on the required staffing levels have yet been undertaken with the trade unions (which are organisations established to negotiate pay agreements and improvements in working conditions on behalf of their members). Airline staff, however, have heard rumours of the likely rationalisation and this has resulted in enquiries to the Board being made by the trade unions. There has been no official response by the Board to this, but it is taking seriously the threat of strike action resulting from rationalisation. The threat of strike action has been reported in daily newspapers. The newspapers have attributed their source of information to the trade unions.

Managerial Style of FQA

FQA always prides itself on having staff who are dedicated to providing a high quality service. The Director of HRM regularly reviews FQA's human resource and remuneration policy taking account of legislation, industry practice and market conditions. The Board has been under increasing pressure to reduce costs. This has resulted in much more emphasis being placed by the Board on individual and company performance than previously in determining human resource and remuneration policy. This has caused considerable staff discomfort over the last two years.

FQA faced difficult employee relations issues through the summer period of the last financial year. It encountered demands for higher pay from ground staff, for improved working conditions and reduced working hours from both air crew (pilots and flight engineers) and cabin staff. These demands led to hard negotiations with the trade unions. All operational staff at FQA, including flight crew and cabin staff, are members of trade unions.

These negotiations resulted in some improvements in pay for the baggage handlers and reduced working hours for air crew and cabin staff. However, the demands made by the trade unions were not met in full. The agreement made between FQA and the trade unions was on condition that targets in productivity increases were achieved. This has resulted in some voluntary redundancies being made in order to meet the productivity targets and a general reduction in the cabin staff on the payroll. The strong tactics employed by the directors of FQA have resulted in many cabin staff feeling that they have been mistreated by the company. They also feel let down by their trade union representatives, which has led to poor morale among the staff.

In addition, FQA has faced many difficulties with suppliers, particularly its outsourced catering service at its home based airport in the capital city. The issue has been that the main catering service supplier (CG) has complained that the hard bargaining stance by FQA management has reduced its margin to such an extent that it is barely making any profit.

At the same time, the Director of Quality Management has made serious complaints regarding the reduced level of quality in the catering service itself following an increasing level of complaints from passengers over recent months. CG's management has responded by threatening to withdraw the service altogether unless FQA agrees to re-negotiate the price for the service which is supplied. In reply, FQA has stated that it will only renegotiate on price when the quality of the service has shown improvement over a sustained period and has threatened legal action for breach of contract if the service is withdrawn.

Pressure from shareholders

The Chairmen of the two largest shareholders of FQA have held discussions with FQA's Chairman and Chief Executive in an attempt to find ways to increase shareholder value. They have made it clear that they believe the running costs of the airline are too high and must be reduced to enable the airline to become a leaner and fitter organisation. This, they argue, will enable FQA to be better able to increase market share in the increasingly competitive airline industry by being able to pass on cost reductions to passengers.

The Chairman and Chief Executive of FQA, advised by the Board, have replied to the two Chairmen of the largest shareholders that any significant impact on lowering costs can only be achieved by reducing the staffing levels which will in turn impact negatively on quality. They also point out that there has been a wave of voluntary redundancies in order to satisfy the increased pay levels and improved working conditions. The Chairman and Chief Executive have warned that further reductions in the staffing levels in the existing operations will erode staff morale even more and may be counter productive in terms of achieving greater market share. At the same time as making this point, the Chairman has instructed the Director of HRM to give serious thought to how further staff reductions could be achieved.

Financial Results for the previous two years

Extracts from the financial results for the previous two financial years for FQA are presented at Appendix A.

Competition data

The following information provides a short statistical comparison between FQA and two competitors in the last financial year:

	FQA	Competitor 1	Competitor 2
Revenue (in \$ million)	10,895	17,784	8,632
Profit attributable to shareholders (\$ million)	371	546	286
Share price at year end (\$)	9.0	6.0	4.5
Shares in issue at year end (million)	520	1,100	600
Long-term liabilities (\$ million)	4,220	6,400	3,330
Fleet size (number of aircraft)	170	290	165
Kilometres flown (million)	560	920	480
Aircraft departures (thousand)	152	250	130
Passenger load factor (overall % of capacity used)	80	75	73
Passengers carried (million)	27	42	22
On time departures (within 15 minutes) %	93	76	75

Cost structures

The constant challenge faced by all airlines is the increasing cost of fuel. Airlines are able to counter increased fuel charges in a number of ways. These include being able to make surcharges to the customer on fuel cost increases and by seeking ways of increasing efficiency in the fuel consumption of their fleets.

The following table shows the proportions of FQA's total costs which are accounted for by particular expense types:

<i>Expense type:</i>	<i>% of total Operating Costs in the financial year ended: 30 September 2006</i>	<i>% of total Operating Costs in the financial year ended: 30 September 2005</i>
Staff and employment overheads	21	21
Fuel	30	29
Landing and parking	10	9
Other (including maintenance, engineering and equipment)	39	41

FQA managed to reduce its exposure to increased fuel costs by using hedging techniques in the year to 30 September 2006 which was a year when fuel prices increased significantly.

New Aircraft

F 898

F expects to manufacture and sell over 1,800 of its F 898 aircraft by the mid-2020's in aiming to accommodate a market demand which it estimates will be for about 3,500 aircraft of this type

and size. It expects the first delivery to a customer to be in 2008 with production and delivery at full capacity two years after that. Currently it has 200 firm orders from all over the world, with about one quarter of these from China. Its seating capacity varies depending on its configuration and customer requirements but it is designed to have 300 seats. It will fly at around 600 miles per hour, which is below the sound barrier.

The construction of the aircraft uses an advanced lightweight composite material and a greatly reduced amount of aluminium compared with older style aircraft. This provides a more robust airframe which is less prone to corrosion as well as significantly reducing the aircraft's weight. This means that it is about 18 tonnes lighter in weight than its nearest competitor aircraft of similar size and seating capacity.

F claims that its 898 aircraft is 20% more efficient in terms of fuel consumption and produces 20% fewer emissions than similar-sized existing aircraft. This is partly due to improved engine technology. The company claims this will have a significant impact in reducing emissions of carbon dioxide and nitrogen oxides thus keeping the air cleaner. In terms of noise pollution, F has designed the aircraft to be quieter on take off and landing than those currently in service. Therefore, F believes that its 898 aircraft will improve the lives of people living and working near airports and of its passengers. It is expected to achieve a 35% reduction in maintenance costs in comparison with similar sized aircraft.

With regard to customer facilities, F intends that the 898 aircraft will have a window size which is 40% larger than other aircraft. In addition, it provides more comfortable levels of humidity in the cabin, improved lighting, wider seats and aisles and larger luggage space above the passengers. This all contributes to making the 898 a more environmentally friendly and customer focused aircraft according to F. It is intended to fly between cities which are up to 16,000 km apart without passengers needing to make connecting flights. The F 898 provides passengers with access to in flight web-mail and the facility to use mobile telephones in the air.

C 491

C has stated that its C 491 aircraft is the first in the world to have a full upper and lower deck for passenger transport, with two aisles running in between the banks of seats. It has a range of 16,000 km which it can fly non-stop. C is implementing internationally accepted quality standards and aims to put this into practice in every aspect of its organisation. New technologies have been introduced enabling the C 491 aircraft to significantly reduce noise on take off, landing and in the air.

Improved technology has enabled the C 491 aircraft to achieve lower fuel consumption per seat making it more environmentally friendly than previous aircraft. The structure of the C 491 aircraft uses very hard wearing composite materials which are strongly resistant to fatigue. It uses lighter but durable materials and thus reduces its overall weight.

With regard to customer health and safety, in addition to improvements in cabin air supply and humidity, C has introduced a medical site on board the C 491 aircraft. The site is a seating configuration which can be varied into a table for patients and has storage for medical equipment such as a respirator, oxygen and electrocardiogram. The cabin crew will be trained in the use of the equipment.

The seating configuration can be modified to suit customer requirements and doors on the main deck and upper deck can be used simultaneously to allow embarkation and disembarkation of passengers. With two loading belts, the aircraft can more speedily achieve transfer of luggage onto and off the aircraft. The turnaround time taking account of refuelling, passenger disembarkation, cleaning, re-stocking and embarkation of the next group of passengers takes about 100 minutes which is considerably less than the time taken on current aircraft in FQA's fleet.

The C 491 will permit the ratio of cabin staff to passengers to be reduced on each aircraft compared with the F 898.

Forecast comparative costs and revenues generated by each aircraft

The following information gives the forecast comparative costs and revenues for one aircraft supplied by each manufacturer operating at FQA's normal capacity of 80% passenger load factor. The normal operating life of an aircraft is in excess of 20 years but the Board of FQA has decided to review the comparative information over a period of 10 years as technology is developing at such a rapid pace. It can be assumed that there is no re-sale value of the aircraft at the end of the 10 years. In producing this information, it has been assumed that either aircraft, once selected, will be available to come into service on 1 January 2008.

All revenues and costs can be assumed to be stated at 1 January 2008 price levels:

<i>Cash inflows</i>	<i>Per aircraft C 491 \$ million</i>	<i>Per aircraft F 898 \$ million</i>
Annual		
Income from passengers	115	70
Income from cargo	35	18
Income from other revenue generating services	4	2

The following inflation allowances are made for each income heading and apply to both aircraft. These apply from 1 January 2008:

- Income from passengers, and other services is expected to increase by an average compound rate of 5% per year.
- Income from cargo is expected to increase by an average compound rate of 10% per year.

<i>Cash outflows:</i>	<i>Per aircraft C 491 \$ million</i>	<i>Per aircraft F 898 \$ million</i>
Annual		
Staff costs	12	9
Landing and parking costs	22	12
Fuel costs	30	26
Maintenance costs	12	4
Contribution to airport developments	16	0
Other costs	4	3
Capital cost of each aircraft	250	150

Notes

- Staff costs take full account of estimated employment taxes.
- Revenue generated by FQA from carriage of cargo in the financial year ended 30 September 2006 represented about 5% of total revenue. Both the C491 and F898 have much greater carrying space available enabling a higher share of revenue per aircraft to be earned by carriage of cargo. The revenue earned by other activities besides that from passengers and cargo in the financial year ended 30 September 2006 was 2.6% of total revenue.
- FQA will be required to make a contribution to the development of the airports around the world servicing the C 491. This is a charge which will apply to each C 491 aircraft using the airports in order to provide facilities for handling it.
- Annual inflation allowances applying to both aircraft for each outflow heading are:
 - Staff, maintenance and other costs are expected to increase by 3%.

- Landing and parking costs are expected to increase by 5%.
 - Fuel costs are expected to increase by 15%.
 - Contribution to airport developments is expected to increase by 4%.
- e. Depreciation is charged on a straight line basis over 10 years. Taxation depreciation allowances can be assumed to be calculated over a 10 year period also on a straight line basis.
- f. Corporate taxation in FQA's home country is at the rate of 25% per annum payable one year in arrears and it is not envisaged that this rate will change over the working life of each aircraft.
- g. A finance lease with a rental cost of \$45 million (gross) per annum for the C 491 and \$30 million (gross) per annum for the F 898 can be obtained. The lease payments will be made annually over 10 years and can be assumed to start on 1 January 2008. Alternatively, FQA has the opportunity to purchase the aircraft using a term loan over 10 years at the annual fixed rate of interest of 8% pre-tax.
- h. The Finance Director considers a suitable risk adjusted money cost of capital rate to be 10% post tax.

APPENDIX A: EXTRACTS FROM THE ACCOUNTS OF FQA

BALANCE SHEET

	<i>As at 30 September 2006</i>		<i>As at 30 September 2005</i>	
	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>
Non-current assets (net)		8,408		7,918
Intangible assets		<u>246</u>		<u>224</u>
Total non-current assets		8,654		8,142
Current assets		<u>2,669</u>		<u>2,469</u>
Total assets		<u>11,323</u>		<u>10,611</u>
Equity and reserves		3,948		3,759
Long-term liabilities				
Bank loans				
(repayable 2008)	1,000		1,000	
(repayable 2009)	1,000		1,000	
(repayable 2012)	720		420	
Other long-term liabilities				
(including leases)	<u>1,500</u>	4,220	<u>1,450</u>	3,870
Current liabilities		<u>3,155</u>		<u>2,982</u>
Total equity and liabilities		<u>11,323</u>		<u>10,611</u>

Note: Paid in share capital represents 520 million shares at \$0.50 each at 30 September 2006.

INCOME STATEMENT

	<i>Year ended</i> <i>30 September 2006</i>	<i>Year ended</i> <i>30 September 2005</i>
	<i>\$m</i>	<i>\$m</i>
Revenue	10,895	10,190
Total operating costs	<u>10,135</u>	<u>9,745</u>
Operating profit	760	445
Financing costs	-265	-235
Tax expense	<u>-124</u>	<u>-53</u>
Profit for the period	<u>371</u>	<u>157</u>

STATEMENT OF CHANGES IN EQUITY

	<i>Share</i> <i>capital</i>	<i>Share</i> <i>premium</i>	<i>Retained</i> <i>earnings</i>	<i>Total</i>
	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>
Balance at 30 September 2005	260	1,714	1,785	3,759
Profit for the period			371	371
Dividends paid			<u>-182</u>	<u>-182</u>
Balance at 30 September 2006	<u>260</u>	<u>1,714</u>	<u>1,974</u>	<u>3,948</u>

Note: It can be assumed that the accounts for the year ended 30 September 2006 are final and have been audited.

End of Pre-seen material

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FQA – Unseen material provided on examination day

Additional (unseen) information relating to the case is given on pages 15 to 19.

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

ANSWER THIS QUESTION

You are the consultant appointed by the FQA Board.

Prepare a report that prioritises, analyses and evaluates the issues facing FQA, 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 2007 – Assessment Matrix for TOPCIMA – Flyqual Airlines

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	10	Knowledge clearly applied in an analytical and practical manner. 9-10	Knowledge applied to the context of the case. 6-8	Identification of some relevant knowledge, but not well applied. 5	Knowledge occasionally displayed without clear application. 3-4	Little attempt to apply knowledge to the context. 1-2	No application of knowledge displayed. 0
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	10	Clearly distinguishes between relevant and irrelevant information. 9-10	Information used is mostly relevant. 6-8	Some relevant information ignored, or some less relevant information used. 5	Information used is sometimes irrelevant. 3-4	Little ability to distinguish between relevant and irrelevant information. 1-2	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	© CIMA – January 2007					

March 2007

FQA - unseen material provided on examination day

Read this information before you answer the question

Capital Investment Appraisal

Capital Investment Appraisal calculations for both the C 491 and the F 898 have been produced. Extracts from the calculations are shown at Appendix B. (Appendix A is shown in the pre-seen material.) The appraisals were based on the C 491 having 600 seats and the F 898 having 300 seats and the normal capacity of an 80% passenger load factor was assumed. That is to say that the passenger income values assume that on average 80% of the aircraft seats will be sold on each flight. Taxation depreciation allowances were calculated over a ten-year period on a straight line basis. The calculations are for **one** aircraft of each type.

A decision on aircraft replacement must be made by 30 June 2007. It has been decided that all replacement aircraft will be leased. The decision to lease has no effect on the risk adjusted money cost of capital rate applied by FQA, which is 10%. Therefore the decision to lease has no effect on the NPV calculation shown in Appendix B. The Finance Director is confident that the total cash commitment of additional leasing charges can be met from future cash flows.

After the calculation shown in Appendix B had been made, it became apparent that assumptions relating to insurance premiums payable by FQA were incorrect. Insurance premiums had previously been excluded by the management accounting team leader responsible for preparing the calculation. This was because he thought that they applied equally to all the aircraft in the FQA fleet. Therefore the team leader concluded they were a common cost and could be excluded.

However, research by a member of the team leader's staff revealed that there would be a differential charge for insuring the C 491 as compared with the F 898. This additional insurance premium would need to be covered by FQA irrespective of how the acquisition of the aircraft was financed. The annual additional differential insurance premium for each C 491 aircraft would be at the yearly rate of \$10,000 for each seat in the 600 seat aircraft, rising by 5% compound per year. The premiums are payable in advance, meaning that the first payment would be made on 1 January 2008.

The member of staff brought this to the attention of the team leader. The team leader refused to change the calculations already submitted to the Finance Director because he said it was "insignificant" with regard to the overall decision and instructed the member of staff to ignore it. The member of the team leader's staff was unwilling to ignore it and raised the matter with the Finance Director.

Landing rights at the airport in the capital city of FQA's home country

In an attempt to encourage increased competition in the airline industry, the government has awarded landing rights at FQA's home airport (in the capital city) to one of FQA's competitor airlines. These rights relate to a long-haul route which is in direct competition with one which FQA already operates and which generates a large amount of passenger traffic. The government made sure that the airline which was awarded the landing rights provides a high quality service similar to that offered by FQA. The new service is due to begin on 1 July 2007. The Aviation Minister has indicated that this may be the first award of a series of landing rights which may or may not be awarded to FQA in the future.

Maintenance Issues

As a result of budget cuts at FQA, some procedures were not completed and this led to a number of aircraft not complying with safety checks. This, in turn, led to an adverse safety report following a series of incidents which called into question the maintenance procedures employed by FQA. The Engineering Director produced a report which stated that the safety procedures were being improperly applied by three technicians whom he dismissed. The Engineering Director went on to say in his report that the maintenance procedures were now perfectly safe.

The pilots' trades union sought re-assurance from the Chief Executive of FQA that the safety of aircraft was not being compromised. In order to provide that re-assurance the Chief Executive appointed an independent engineering consultant to carry out a review of the maintenance procedures employed by FQA. The report of the independent engineering consultant concluded that there were serious faults with the maintenance procedures and that the Engineering Director should have known about these. The independent engineering consultant's report went on to state that in his professional opinion, the budget for maintenance needs to be reviewed as it is inadequate to carry out the required maintenance procedures and it was down to sheer luck that no serious incidents had occurred.

The trade unions argued that engineering management rather than the three technicians were at fault and these staff, who had been dismissed, had been used by FQA management to cover up the failings at a more senior level.

Trade unions negotiations

The maintenance issues coupled with the earlier difficulties with staff, had further damaged relations between management and staff within FQA. Seizing the initiative, the trade unions, who act on behalf of FQA employees, including maintenance workers, entered into negotiations with FQA. This was in an attempt to improve the earlier agreement on pay for ground staff and working hours for the air crew and cabin staff. The trade unions did not rule out strike action at FQA. They threatened that the dispute might be extended to involve other people employed in the transport industry, which although illegal in the UK, is legal in FQA's home country.

Pressure on FQA was further increased when the Aviation Minister informed the Chairman of FQA that unless a general transport strike was avoided by FQA settling its internal disputes, there would be a withdrawal of government financial support for the airline.

Cost of strike action

The Board has received an evaluation from the Finance Director that the cost of strike action, in terms of lost revenue, if the whole airline were to be closed down is estimated at \$30 million per day. (Variable costs of running FQA are estimated at about 40% of revenue). Added to this would be the cost incurred by the loss of goodwill. In addition, the Director of Sales and Marketing has explained that the potential cost of recovering lost business is likely to be substantial after a strike. She further expressed that she would strongly resist the Board's proposal to significantly reduce marketing expenditure in the event of strike action being taken by FQA's employees. The Finance Director had also calculated that the cost of settling the claims on the trade unions' terms would be about \$220 million per year.

Emergency Board Meeting

The Chairman of FQA called an emergency meeting and the directors were inevitably concerned to ensure that FQA's flights schedule was maintained, but insisted that any renegotiation of pay and conditions of service must be coupled with further improvements in efficiency and increased productivity.

Catering services

There had also been disruption to the catering service due to the continued hard bargaining by FQA with its main outsourced catering supplier (CG) in its home country. In effect, the only way CG could continue to provide the service was to reduce its own staffing levels or renegotiate its employment contracts with its staff. A reduction in the staffing levels would mean that the catering service capacity would be reduced leading to a reduction in supplies to FQA. The approach CG adopted therefore was to attempt to re-negotiate contracts with its staff which resulted in strike action. This reduced supplies of catering to FQA which resulted in a suspension of its entire catering service on all short-haul routes. In its place, FQA provided passengers with a voucher which they could use to purchase food at the airport when they checked in.

TV and press interview

A television and press interview was given by the Director of Sales and Marketing. After the interview, the Director of Sales and Marketing made confidential comments that the trade unions had taken an unreasonable position and complained that they had been opportunist and were "blackmailing" FQA. She further went on to say that the staff employed by FQA enjoyed very satisfactory pay and conditions of service and that if any employee felt they could improve on these they should seek employment elsewhere because "there are plenty of unemployed people in the country who can replace them and would be happy to work for FQA".

These comments were given to the press by an FQA employee to whom the remarks were being made. He passed the comments to the press because he felt the attitude of the Director of Sales and Marketing was unreasonable. He did not know how to raise this matter internally within FQA. Subsequently the FQA employee, to whom the remarks were made, was dismissed, and this attracted negative press comment.

Meeting between Chairmen and the Chief Executive of FQA

A private meeting attended by both the Chairman and the Chief Executive of FQA and the Chairmen of the largest shareholding companies was held. Between them the two largest shareholding companies own 60% of FQA. At the meeting FQA's Chairman and Chief Executive re-affirmed their position of not giving in to unfair trade union pressure. The shareholders represented by the other Chairmen accepted this position but only in the short term. They felt a lengthy strike would be extremely damaging and instructed the FQA Board to restore a reasonable working relationship with the trade unions and insisted that the Director of Sales and Marketing should give no more press interviews. Further, they instructed the Chairman to dismiss her if the trade unions insisted that they would not negotiate with the company if she remained on the Board.

At the end of the meeting, one of the Chairmen of the two largest shareholding companies brought to the attention of the Chairman of FQA a matter relating to fuel purchases. It was apparent that despite holding down its fuel costs in the financial year ended 30th September 2006, FQA had since then purchased fuel at a price which was higher than that which would be charged by an alternative supplier. The Chairman of the shareholding company was aware of this as he is a member of the Board of the alternative fuel supplier. On investigation, he had been told confidentially that one of FQA's senior purchasing staff had received an inducement payment to obtain the fuel at the higher price from a specific supplier.

Reaction of the Chairman of C

C manufactures a major component of its own aircraft in FQA's home country. The Chairman and Board of C are becoming increasingly concerned that the dispute at FQA may begin to affect their own company's production. The national leaders of the trade unions had made it clear to the Chairman of C that they felt that he should try to bring some influence to bear on the FQA Board to settle the dispute quickly. The national trade union leaders did not rule out the possibility of industrial action taking place at C's manufacturing plants in FQA's home country if

it continued to negotiate the sale of the C 491 to FQA while the industrial dispute was still taking place. They reminded the Chairman of C that this action would be legal in FQA's home country.

Staff Turnover

Staff turnover at FQA is increasing as cabin staff, in particular, are seeking alternative employment. Some of the FQA pilots sought employment with other airlines which were willing to accept them providing they had vacancies. FQA pilots are highly regarded among other airlines as their training programmes and procedures are considered to be world class.

Extraordinary General Meeting of shareholders

An Extraordinary General Meeting of shareholders was called. The meeting was attended by all 12 non-executive directors as well as the main Board members. After receiving major criticism at the meeting, the FQA Chairman and Chief Executive both resigned with immediate effect.

It was agreed by the non-executive directors that a consultant should be appointed immediately to review the issues facing FQA.

APPENDIX B

Extracts from the Capital Investment Appraisal calculations for each aircraft

All figures are at 31 December of each year.

	Years									
	1	2	3	4	5	6	7	8	9	10
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
C 491 (per aircraft)										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total income	163.5	173.5	184.3	195.9	208.2	221.5	235.7	250.8	267.1	284.6
Total outflows (before tax)	103.1	110.9	119.7	129.4	140.3	152.6	166.2	181.6	199.0	218.5
Pre-tax cash flows	60.4	62.6	64.6	66.5	67.9	68.9	69.5	69.2	68.1	66.1

NPV of after tax cash flows: \$97 million

F 898 (per aircraft)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total income	95.4	101.2	107.3	113.9	120.9	128.4	136.4	145.0	154.1	164.0
Total outflows (before tax)	59.0	64.6	70.9	78.0	86.2	95.3	105.7	117.5	131.0	146.2
Pre-tax cash flows	36.4	36.6	36.4	35.9	34.7	33.1	30.7	27.5	23.1	17.8

NPV of after tax cash flows: \$26 million

COST OF CAPITAL FOR BOTH NPV CALCULATIONS = 10%

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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 (n)	Interest rates (r)									
	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	0.705	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 (n)	Interest rates (r)									
	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 (n)	Interest rates (r)									
	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 (n)	Interest rates (r)									
	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	4.793	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:

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

- (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:

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

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:

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

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

$$k_e = R_f + [R_m - R_f]\beta$$

- (vi) Weighted average cost of capital, k_0 :

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

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*P10 – Test of Professional
Competence in Management
Accounting*

March 2007

Tuesday 6 March