## P6 - Management Accounting - Business Strategy

## 20 November 2007 - Tuesday Morning 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 <br> during which you should read the question paper and, if you wish, highlight <br> and/or make notes on the question paper. However, you will not be allowed, <br> under any circumstances, to open the answer book and start writing or use <br> your calculator during this reading time. |
| You are strongly advised to carefully read ALL the question requirements <br> before attempting the question concerned (that is, all parts and/or sub- <br> questions). The question requirements are contained in a dotted box. |
| ALL answers must be written in the answer book. Answers or notes written <br> on the question paper will not be marked. |

Answer the ONE compulsory question in Section A on pages 2, 3 and 5. The question requirements are on page 5 , which is detachable for ease of reference.

Answer TWO of the four questions in Section B on pages 7 to 10 .
Maths Tables and Formulae are provided on pages 11 and 12. These pages are detachable for ease of reference.

The list of verbs as published in the syllabus is given for reference on the inside back cover of this question paper.

Write your candidate number, the paper number and examination subject title in the spaces provided on the front of the answer book. Also write your contact ID and name in the space provided in the right hand margin and seal to close.

Tick the appropriate boxes on the front of the answer book to indicate which questions you have answered.


SECTION A - 50 MARKS
[the indicative time for answering this section is 90 minutes]
ANSWER THIS QUESTION

## Question One

## Introduction

AA is a large food manufacturer, making a range of basic canned and bottled foodstuffs. With a turnover of almost $€ 500$ million, AA is a major employer throughout Western Europe. While a few AA brands are recognisable market leaders, notably a range of canned fish and a 'household name' tomato ketchup, most of AA's products are in the second tier of food products. The company also produces a wide range of 'own brand' products for major supermarket chains (these are products in packaging bearing the name of the supermarket retailer, rather than the producer).

Financial performance (2007/8)
The following information is taken from the October 2007 management accounts of AA. It relates to the budget and latest forecast for the full financial year ending 31 March 2008:

|  | $\frac{\text { Year to }}{\text { date }}$ <br> € million | $\begin{aligned} & \frac{\text { Latest full }}{\text { year }} \\ & \text { forecast } \\ & \text { € million } \end{aligned}$ | Full year original budget € million |
| :---: | :---: | :---: | :---: |
| Sales revenue from major |  |  |  |
| supermarket chains | 177.0 | 357.0 |  |
| Sales revenue from wholesalers | 42.9 | 89.4 |  |
| Gross sales revenue (after returns) | 219.9 | 446.4 | 495.6 |
| Discounts given | (9.9) | (20.1) | (15.6) |
| Net sales revenue | 210.0 | 426.3 | 480.0 |
| Gross profit* | 36.2 | 68.2 | 99.0 |

* The prices charged to customers are calculated to generate a gross profit margin, before any discount, of $20 \%$ (that is, $495.6 \times 20 \%=99$ ).

After much discussion about the possible causes of this year's poor performance, the most recent board meeting of AA discussed possible solutions. The following initiatives were identified, which should increase forecast sales revenue in the five remaining months of the current financial year:

- The Marketing Director stated that the effects of a major advertising campaign, aimed at wholesalers, had been omitted from the most recent forecast. This would be launched shortly, and should result in an increase in sales revenue from wholesalers of $8 \%$ for the remainder of the year.
- The Business Development Director proposed that a new product line, planned for launch in 2008/9, should be launched early. The new products are already in stock, and should generate gross sales revenue of $€ 8.4$ million by year end, without affecting the sales of other products.
- The Sales Director announced that a new wholesale customer had just been won, in an Eastern European country. This new customer should generate about $€ 12$ million of net sales revenue in the remaining five months of the year. This revenue was not included in the latest forecast, as the Sales Director had not expected to win the contract.


## Customer strategy

The directors of AA are concerned about the high cost of servicing some of its major supermarket customers. During a recent brainstorming session, they identified the following possible strategies to deal with the least profitable of these customers:

1. Stop selling to them. This will mean that the customers, if they wished to sell AA products, would have to buy them through a wholesaler.
2. Persuade the customers to reduce the number of cost generating activities (as identified in the forecast data below).
3. Introduce new technologies to reduce the cost of the cost-generating activities.

The Sales Director of AA has provided the following information relating to three of AA's major supermarket customers:

## Forecast for 2007/8

|  | $\mathbf{S 1}$ | $\mathbf{\text { S2 }}$ | $\underline{\mathbf{S 3}}$ |
| :--- | :---: | :---: | :---: |
| Sales revenue (before discounts and returns)\# (€million) | 58 | 24 | 108 |
| Average discount given (\%) | 3 | 2 | 8 |
| Number of sales visits made | 12 | 15 | 218 |
| Number of purchase orders processed* | 59 | 26 | 760 |
| Number of 'standard'** deliveries made | 104 | 318 | 602 |
| Number of 'rush'***' deliveries made | 7 | 2 | 158 |
| Damaged products returned (\% of sales revenue)**** | 2.1 | 2.0 | 3.4 |

## Notes:

\# The prices charged to customers are calculated to generate a gross profit margin, before any discount, of $20 \%$.

* Purchase orders are paper documents, specifying items and quantities required, and the expected date of delivery.
** A 'standard' delivery is one that is ordered and scheduled in the normal way, that is, at least 24 hours before the delivery is required.
*** A 'rush' delivery is one that is ordered and scheduled for delivery on the day of order. This normally happens as a result of unexpectedly high demand causing a supermarket to run out of stock, or due to a customer error in calculating order quantities.
**** Customers are given a full refund for all damaged goods. These goods cannot be re-used or re-sold.

The Operations Accountant has provided the following costing information:

## Forecast averages for 2007/8

Making a sales visit

## Cost (€)

Processing a purchase order 148
Making a 'standard' delivery 2,250
Making a 'rush' delivery 6,475

# The requirement for Question One is on page 5, which is detachable for ease of reference 

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## Required:

(a)
(i) Briefly explain what is meant by 'gap analysis' in the context of strategic analysis.
(ii) Briefly explain the use of the Ansoff product/market growth strategies model in strategic planning, providing examples relevant to AA to illustrate your explanation.
(b)
(i) Calculate the effect of the three initiatives (identified at the board meeting) on the full year net sales revenue gap.
(ii) Categorise each of the three initiatives in terms of the Ansoff growth strategies.
(3 marks)
(c) Calculate and analyse the forecast net customer account profitability of each of the three major supermarket customers of AA, during the 2007/8 financial year.

Note: There are 18 marks available for calculations in this requirement.
(25 marks)
(d) Evaluate the three alternative strategies proposed for the least profitable of AA's major supermarket customers and recommend which of these strategies you believe AA should adopt.
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# SECTION B - 50 MARKS <br> [the indicative time for answering this section is 90 minutes] ANSWER TWO QUESTIONS FROM FOUR 

## Question Two

D is an international logging company, which cuts down timber and supplies sawmills where the timber is seasoned and then cut to appropriate sizes for use in a range of industries. D will work with any timber, ranging from softwoods used in construction or paper manufacture to exotic hardwoods used in expensive furniture. Its usual approach is to secure the rights from a landowner, or in some cases a national government, to cut timber. This can often involve the payment of large initial cash deposits to these suppliers, money which D usually borrows. A logging team then cuts down the trees as quickly as possible and hauls the timber to a convenient river where it is floated to a sawmill. Moving on rapidly to the next site, the loggers usually leave considerable surface damage behind them.

Since an increasing proportion of the company's work has been in the tropical rainforest, it has recently come under pressure from environmental groups that have protested that it is not socially responsible to act in this way. Whilst the softwood forests can be regenerated in a couple of decades by replanting, hardwoods in tropical forests take far longer to mature.

The Chief Executive of the company has argued that he is not concerned about these protests since, as far as he is concerned, the company always acts ethically, as it has the agreement of the national government in any country in which the company operates.

A recent development in the timber industry has been the harvesting of timber from the bottom of reservoirs which have been created by flooding valleys. Although the capital equipment required for this approach is significantly more expensive than that used in conventional logging, the operating costs are lower. Waterlogged trees in reservoirs have balloons attached, are cut, float to the surface and are towed to a sawmill. The underwater process is quieter and less disruptive to wildlife and the environment.

It has been estimated that there are over half a billion trees, or 20 years' supply, submerged in reservoirs across the world, but it can take considerable research and expense to find them. As long as the timber has remained submerged deeply enough, it is of the same quality as timber harvested from the land. There is currently only one company conducting underwater logging, although a number of other companies are also considering this development.

Some of the board of directors feel that D should pursue this underwater approach and abandon land based logging. The Chief Executive and one other director feel that the underwater approach carries too high a risk.

## Required:

(a)
(i) Briefly explain the differences between business ethics and corporate social responsibility (CSR).
(5 marks)
(ii) Discuss the CSR issues relating to D's business and how the company might improve its CSR position.
(8 marks)
(b) With reference to $D$, evaluate the two approaches to logging and recommend which you think is most appropriate for $D$.
(12 marks)
(Total for Question Two = 25 marks)

## Question Three

$F$ is a leading manufacturer of plastics. Its major products are beer crates and small containers for food sold in supermarkets. Together these two product ranges constitute $90 \%$ of F's business, the remainder coming from selling more technologically sophisticated products.

The company is faced with a number of difficulties and may have to issue a profits warning in the coming year. Although the profit levels have been uneven for the past five years, this is the first time that $F$ will have to report significantly reduced profits.
$F$ has been adversely affected by the aggressive marketing of foreign companies importing beer crates into the market, such that F's market share has fallen from $80 \%$ to $60 \%$ in the past three years. Consolidation in the brewery industry has meant that profit margins for crate manufacturers have been squeezed.

The company is heavily dependent upon the home market, which accounts for $75 \%$ of its total sales. Exports have been mainly of food containers for supermarkets in neighbouring countries.
$F$ has invested heavily in research and development (R\&D) and, although there is one exciting proposition in electro-plastics, most expenditure has been on projects selected by R\&D managers who have little commercial awareness. There is the possibility that some new products may be developed from the electro-plastics research.
$F$ is highly centralised, with many decisions taken by the 20 members of the board of directors. The workforce is highly unionised, with a number of different unions represented. Each factory has several negotiating committees set up to agree pay and conditions. Negotiations are often time consuming and confrontational. This has resulted in very precise job definitions, which are strictly adhered to. This has further resulted in considerable inflexibility, together with a complicated system of labour grades.

The directors have had little communication with stock market analysts and investors, who have little knowledge of the company other than what is shown in the published accounts. An informal group of institutional shareholders has asked for a strategic review and has suggested that F should withdraw from the beer crate market.

## Required:

(a)
(i) Discuss the main difficulties faced by F.
(ii) Identify and evaluate alternative strategies that F could adopt to address its difficulties and recommend those that are most appropriate
(12 marks)
(b) Explain why the failure to keep the shareholders more informed is a significant weakness for $F$.

## Question Four

$B$ is a multinational company with more than 20 divisions operating in various light engineering industries supplying automobile and aircraft manufacturing companies. Each division is managed by a chief executive officer (CEO) reporting directly to the board of directors of $B$.
$B$ has recently acquired $C$, a smaller company with only 5 divisions which also operate in light engineering and supply similar customers to B's existing businesses. Each division is managed by a CEO reporting to the board of directors of $C$.

In the previous acquisitions that $B$ has made, the acquired companies have been allowed to continue operating independently. This is despite the fact that there are overlapping or competing divisions in the combined enterprise. There is no certainty that this approach will continue.

Using Goold and Campbell's classification, B operates a system of 'strategic planning', and C operates a system of 'strategic control'.
$B$ has announced that the board of directors of $C$ will retire and each of the former divisions of $C$ will report directly to the board of $B$.

The board of directors of $B$ recognises that this will represent a considerable change in culture, working practices and expected behaviour for the CEOs of the divisions of C . It is concerned that there may be problems in ensuring the commitment of those CEOs to both $B$ and its 'strategic planning' style.

As part of the acquisition team you are responsible for the transition to the new structure.

## Required:

(a) Discuss the differences between 'strategic planning' and 'strategic control'.
(4 marks)
(b) Discuss the impact that the change in planning culture is likely to have on the CEOs of the former divisions of C .
(11 marks)
(c) Explain how the changes to the reporting arrangements could be implemented to ensure the commitment of those CEOs to $B$.
(10 marks)
(Total for Question Four = 25 marks)

## Question Five

G supplies electronic components to the automobile industry by exporting from the home country in which it is currently based. The company has recently set up a research facility in the home country to develop hydrogen fuel cells. The concept of hydrogen fuel cells has attracted a great deal of interest from the environmental lobby since it offers the prospect of very environmentally friendly vehicles. The market for these vehicles is in the development stage and there have been relatively few sales so far for this new technology. G hopes that the current pressure from environmental groups and governments will lead to large volume sales.

Increasingly, electronic component manufacturers are under pressure to manufacture close to the locations of their customers, the automobile manufacturers.
The research and development (R\&D) director has decided that there is a need to open a research facility abroad, to work in partnership with the facility in the home country and capitalise on the benefits that a foreign base could offer. If this venture were successful, G would open a manufacturing facility next to the proposed overseas R\&D base.
The board of directors recognises that different countries will offer different potential advantages and disadvantages. It has been decided that the ideal characteristics and factors for the chosen country should be determined, so that potential choices can be screened effectively before a final decision is made.

## Required

(a) Advise what ideal characteristics and factors should be present in the chosen country.
(b) Recommend the nature and sources of information that $G$ should use when evaluating potential countries.

## Present value table

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

| Periods <br> (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 | 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 <br> (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 $\$ 1$ per annum, Receivable or Payable at the end of each year for $n$ years

$$
\frac{1-(1+r)^{-n}}{r}
$$

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


| Periods <br> (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 | 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

## Annuity

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

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

Perpetuity
Present value of \$1 per annum, payable or receivable in perpetuity, commencing in one year, discounted at $\Gamma \%$ per
annum:

$$
P V=\frac{1}{r}
$$

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## LIST OF VERBS USED IN THE QUESTION REQUIREMENTS

A list of the learning objectives and verbs that appear in the syllabus and in the question requirements for each question in this paper.

It is important that you answer the question according to the definition of the verb.

| LEARNING OBJECTIVE | VERBS USED | DEFINITION |
| :---: | :---: | :---: |
| 1 KNOWLEDGE |  |  |
| What you are expected to know. | List | Make a list of |
|  | State | Express, fully or clearly, the details of/facts of |
|  | Define | Give the exact meaning of |
| 2 COMPREHENSION |  |  |
| What you are expected to understand. | Describe | Communicate the key features |
|  | Distinguish | Highlight the differences between |
|  | Explain | Make clear or intelligible/State the meaning of |
|  | Identify | Recognise, establish or select after consideration |
|  | Illustrate | Use an example to describe or explain something |
| 3 APPLICATION |  |  |
| How you are expected to apply your knowledge. | Apply | To put to practical use |
|  | Calculate/compute | To ascertain or reckon mathematically |
|  | Demonstrate | To prove with certainty or to exhibit by practical means |
|  | Prepare | To make or get ready for use |
|  | Reconcile | To make or prove consistent/compatible |
|  | Solve | Find an answer to |
|  | Tabulate | Arrange in a table |
| 4 ANALYSIS |  |  |
| How you are expected to analyse the detail of what you have learned. | Analyse | Examine in detail the structure of |
|  | Categorise | Place into a defined class or division |
|  | Compare and contrast | Show the similarities and/or differences between |
|  | Construct | To build up or compile |
|  | Discuss | To examine in detail by argument |
|  | Interpret | To translate into intelligible or familiar terms |
|  | Produce | To create or bring into existence |
| 5 EVALUATION |  |  |
| How you are expected to use your learning to evaluate, make decisions or recommendations. | Advise | To counsel, inform or notify |
|  | Evaluate | To appraise or assess the value of |
|  | Recommend | To advise on a course of action |

# Business Management Pillar 

## Strategic Level Paper

## P6 - Management Accounting Business Strategy

November 2007

## Tuesday Morning Session

