Hong Kong Institute of
Accredited Accounting Technicians
香港財務會計協會

Professional Bridging Examination

December 2014 Session

Paper II
PBE Management Accounting and Finance

Questions & Answers Booklet

<u>SECTION A (COMPULSORY)</u> **(Total: 40 marks)**

*Answer **ALL** questions in this section. Marks are indicated at the end of each question. Together they are worth 40% of the total marks for this examination.*

Paradise Group is going to invest $1,200,000,000 in a new hotel project. The hotel will consist of 500 rooms. Based on past experience, mortgage interest payments of the hotel will be $30,000,000 per year and other non-operating expenses will be $20,000,000 per year.

With an assumption of a 70% occupancy level (note: If a hotel has 100 rooms and 70 rooms are sold and occupied, its occupancy percentage is 70%), the hotel sales manager has calculated the room-related variable cost which is $450 per room every day. The other overheads related to the new hotel operations are $100,000,000 per year which excludes the variable cost of $450 per room per day.

The hotel is projected to have a revenue of $20,000,000 per year from the food and beverage department and $5,000,000 from all other departments excluding the room-sales department.

Paradise Group is interested in a project if it can achieve a 3% return above its Weighted Average Cost of Capital (WACC) on the investment, assuming a 15% marginal tax rate is adopted. The partial Statement of Financial Position for Paradise Group as at 31 December 2013 is as follows:

Fixed assets	$55 billion
Current assets	$5 billion
Short term liabilities	$10 billion
Long term liabilities	$30 billion

The liabilities of Paradise Group are basically corporate bonds. Bonds with similar characteristics have a yield of 4% p.a.. Paradise Group is a private company in Hong Kong. The risk free rate is 0.2% p.a. and the market return is 8% p.a.. The beta of the same industry as Paradise Group is 1.2.

You are a financial analyst of the Paradise Group. The top management would like to have your advice on the hotel project and the group's financial issues.

Question 1 (25 marks – approximately 45 minutes)

All numerical answers should be rounded to whole numbers if it is not specified in the question.

(a) Calculate the Weighted Average Cost of Capital (WACC) of Paradise Group. (Answers should be rounded to 2 decimal places.)
(6 marks)

(b) Explain why the calculation of WACC above is not universally applicable to the projects taken up by Paradise Group. Provide ONE assumption underlying the WACC formula.
(3 marks)

(c) Compute the profit after tax of the new hotel project based on the required return and the amount invested.
(1 mark)

(d) Using the result in part (c), calculate the before tax profit of the new hotel project.
(2 marks)

(e) Based on the occupancy percentage given, calculate the total number of rooms sold in a year and the total amount of room related expenses in a year.
(3 marks)

(f) Find out the total revenue of the hotel operations needed to cover all expenses and generate the required profit of the project.
(3 marks)

(g) Based on the results from parts (e) and (f), calculate the revenue of the room sales department and the average room rate to be offered by the new hotel.
(4 marks)

(h) Explain why the actual room rate charged to customers is usually different from the one calculated in part (g).
(3 marks)

__Question 2__ **(15 marks – approximately 27 minutes)**

Financing a big project like a new hotel project is always an issue for any company. In the stock market, there are Initial Public Offering (IPO) and rights issue.

__Required:__

(a) **Based on the case information given, state TWO sources of finance of the Paradise Group.**

(2 marks)

(b) **Which source is more expensive? Explain briefly.**

(3 marks)

(c) **Which source is relatively easier to be raised on a large scale in the financial market? Explain briefly.**

(3 marks)

(d) Assume Paradise Group was transformed into a public company through an IPO. One year later, Paradise Group wants to raise an investment of $1,200,000,000 by a rights issue. Every shareholder will receive one right for every share of stock they own. The offering consists of a total of 500,000,000 new shares. The current market price of Paradise Group's stock is $10. Currently, there are 1,000,000,000 shares outstanding.

__Required:__

Calculate the ex-rights price and value of a right. (Answers should be rounded to 2 decimal places.)

(7 marks)

* * * END OF SECTION A * * *

SECTION B (ANSWER THREE QUESTIONS ONLY) (Total: 60 marks)

*Answer any **THREE** questions in this section. Each question carries 20 marks. Together they are worth 60% of the total marks for this examination.*

Question 3 (20 marks – approximately 36 minutes)

Two caterers have the following operating data:

	Caterer A ($'000)	Caterer B ($'000)
Revenue	1,084,415	6,394,089
Cost of inventories sold	331,973	2,090,196
Net profit	131,297	544,947
Inventories	13,043	204,548

Required:

All the numerical answers should be rounded to 1 decimal place.

(a) **Calculate the inventory turnover period of each caterer, and comment on the results with respect to the movement of their inventories.**

(6 marks)

(b) **The inventory turnover period of a fashion retailer is normally longer than that of a caterer? Explain briefly.**

(3 marks)

(c) **Calculate the net profit margin of each caterer.**

(2 marks)

(d) **(i)** **Calculate the cost of inventories sold as a percentage of revenue for both caterers.**

(ii) **From your knowledge of managerial accounting, what are the TWO possible major costs, other than food cost, incurred in the catering business?**

(5 marks)

(e) **Explain TWO reasons why inventory management is especially important in the catering industry.**

(4 marks)

Question 4 (20 marks – approximately 36 minutes)

A cash dividend is one way for a company to distribute profit to its shareholders. Investors would prefer a stable dividend policy.

Required:

(a) **Explain why a company is expected to distribute dividends to its shareholders.** **(2 marks)**

(b) **Companies may use stock repurchase as an alternative to paying a cash dividend. Why would stock repurchase be used by a company? What is the consequence of stock repurchase?** **(4 marks)**

(c) A company has 1,000,000,000 shares outstanding, and the market value per share is $10.

Required:

Find the total number of shares outstanding after the following independent events:

(i) **a two for one stock split; and**
(ii) **a 10% stock dividend.**

(4 marks)

(d) **Explain ONE reason why companies adopt:**

(i) **stock split; and**
(ii) **stock dividend.**

(4 marks)

(e) **A company reported a profit of $100 million. Explain the following scenarios:**

(i) **the company distributed less than $100 million as dividend; and**
(ii) **the company distributed more than $100 million as dividend.**

(4 marks)

(f) **Explain the rationale of a residual dividend policy.** **(2 marks)**

Question 5 **(20 marks – approximately 36 minutes)**

PBE Consulting Firm has two major business segments named Government and Commercial. Data for the segments and the company in 2013 were as follows:

Sales revenue, Government	\$690 million
Sales revenue, Commercial	\$310 million
Variable expenses, Government	\$290 million
Variable expenses, Commercial	\$164 million
Traceable fixed expenses, Government	\$104 million
Traceable fixed expenses, Commercial	\$50 million

In addition, there were \$282 million common fixed expenses in PBE Consulting Firm. \$127 million was allocated to the Government segment and the remaining \$155 million was allocated to the Commercial segment.

Required:

All numerical answers should be rounded to whole numbers if it is not specified in the question.

(a) **Prepare a segment income statement based on the above information.**
(8 marks)

(b) **Calculate the residual income of the company if the average assets used are \$1,500 million and the required rate of return is 10%.**
(2 marks)

(c) **Calculate the return on investment (ROI) by using the information in part (b). (Answer should be rounded to 1 decimal place.)**
(2 marks)

(d) **The company receives an invitation to make a new investment, it requires an additional asset of \$500 million and the net profit from this investment is \$40 million.**

(i) **Advise whether the company should invest in the new project? Support your answer by calculation and explanation.**

(ii) **Other than ROI, what other indicators will you use for evaluating the project?**
(4 marks)

(e) **Suggest and explain TWO ways in general to improve return on investment (ROI).**
(4 marks)

Question 6 (20 marks – approximately 36 minutes)

Different airlines use different pricing policies in their operations. Some airlines charge higher ticket prices than the others for the same market.

Required:

(a) **Suggest and explain any THREE objectives of the pricing policy.**

(5 marks)

(b) **Outline the TWO broad approaches in price setting.**

(4 marks)

(c) **For one flight, fuel cost is $100,000 per hour, landing fee is $50,000 and each meal costs $70. The baggage handling fee per flight is $10,000.**

(i) **Calculate the total cost of a 1.5 hour flight with 300 passengers and the cost per-head of this flight; and**

(ii) **Suppose a cost plus margin of 30% is adopted by an airline as its pricing policy, based on the result of part (i), calculate the ticket price for this flight in a single journey.**

(5 marks)

(d) **Even when the cost structures for different airlines are comparable, suggest TWO reasons why some airlines charge higher prices than others for the same class of tickets.**

(2 marks)

(e) **Suggest and explain TWO reasons why the prices for business class or first class tickets are higher than economy class tickets.**

(4 marks)

* * * END OF EXAMINATION PAPER * * *

SECTION A (COMPULSORY) (Total: 40 marks)

Answer 1(a)

Cost of equity (R_E):

$(R_E) = R_f + \beta_E \times (R_m - R_f)$
$= 0.2\% + 1.2 \times (8\% - 0.2\%)$
$= 9.56\%$

Weighted Average Cost of Capital (WACC):

$\text{WACC} = (E/V) \times R_E + (D/V) \times R_D \times (1 - T_c)$
$= 20/60 \times 9.56\% + 40/60 \times 4\% \times (1 - 15\%)$
$= 5.45\%$

Answer 1(b)

Different projects have different risks. It is a normal practice in the market to adjust the WACC by the risk involved in the projects. The higher the risk, the higher the adjustment to the WACC. Also, projects may not be financed in the same proportion as the capital structure of the company. As such, WACC is not universally applicable to all projects taken up by Paradise Group.

The assumptions underlying WACC are that the company keeps on investing in a project of a standard level of business risk, by raising funds in the same proportions as its existing capital structure.

Answer 1(c)

Profit after tax = \$1,200,000,000 x (3% + WACC)	\$101,400,000

Answer 1(d)

Profit before tax = \$101,400,000 / (1-15%)	\$119,294,118

Answer 1(e)

Room related expenses = 500 x 70% x 365 x \$450	\$57,487,500
Total number of rooms sold = 500 x 70% x 365	127,750 rooms

Answer 1(f)

Required total revenue for a year:

	$
Required profit before tax	119,294,118
Add expenses	
Mortgage interest	30,000,000
Non-operating expenses	20,000,000
Hotel operation overheads	100,000,000
Room related expenses	57,487,500
Required total revenue	326,781,618

Answer 1(g)

	$
Required total revenue	326,781,618
Less	
Food & Beverage Department	20,000,000
All other departments excluding room-sales	5,000,000
	301,781,618

Average room rate:
$301,781,618 / 127,750 rooms
= $2,362

Answer 1(h)

The actual room rate is different because of different market competition or environment. Also, during the low season, the room rate is lower. In the high season, the room rate is higher.

Answer 2(a)

The two major sources of finance of the Paradise Group are debt and equity financing. For equity finance, it may be in the form of an initial public offering or placement; for debt finance, it may be in the form of money borrowed from banks.

Answer 2(b)

Equity financing is more expensive than debt financing. This can be evidenced from the higher return demanded from shareholders than from loan creditors.

Answer 2(c)

It is easier to raise a large amount of money from equity financing than from debt financing in the financial market. Shareholders are owners of the company and they may be able to share the profit. For debt financing, these are creditors who contribute the debt and if the debt level is too high and the profitability is low, it may lead to default. It is almost impossible to borrow a large amount of money as it is too risky from the creditors' point of view.

Answer 2(d)

Old market value of Paradise Group (1,000,000,000 x $10)	$10,000,000,000
New market value of Paradise Group ($10 billion + $1.2 billion)	$11,200,000,000
Ex-rights price = $11,200,000,000/(1,000,000,000+500,000,000)	$7.47
Value of a right = $10 - $7.47	$2.53

* * * END OF SECTION A * * *

SECTION B (ANSWER THREE QUESTIONS ONLY) **(Total: 60 marks)**

Answer 3(a)

	Caterer A	Caterer B
Inventory turnover	25.5 ($331,973 / $13,043)	10.2 ($2,090,196 / $204,548)
Inventory turnover period	14.3 days (365 days / 25.5)	35.8 days (365 days / 10.2)

Caterer A takes a much shorter time for the inventories to move once than caterer B. For caterer A, it takes an average of 14.3 days for inventories to move once; and for caterer B, it takes 35.8 days. The inventory movement for caterer A is higher than caterer B. We may assume that the freshness of the food is better for caterer A than caterer B.

Answer 3(b)

It is expected that the inventory turnover period for a fashion retailer is longer than a caterer. For a caterer, the freshness of food has to be maintained. It is highly unlikely that a caterer keeps a food product for a long period of time. On the other hand, a fashion product can be kept for a longer period and is not being treated as a necessity in the way that a food product is.

Answer 3(c)

	Caterer A	Caterer B
Net profit margin	12.1% ($131,297 / $1,084,415)	8.5% ($544,947 / $6,394,089)

Answer 3(d)(i)

	Caterer A	Caterer B
Cost of inventories sold/Revenue	30.6% ($331,973/ $1,084,415)	32.7% ($2,090,196/ $6,394,089)

Answer 3(d)(ii)

Two other costs incurred in the catering business include utilities, staff cost and rent.
(Any relevant answers are acceptable.)

Answer 3(e)

Management of inventory movement is essential for the catering industry because food has a very short expiry date. In addition, food cost constitutes almost 30% of revenue. It is a significant operating cost. Good inventory management can reduce wastage and the corresponding food cost.

Answer 4(a)

Shareholders contribute equity to a company instead of putting it in a bank. They expect to share the profit generated from the company they invested in. A company generally distributes dividends to shareholders in order to satisfy their expectations.

Answer 4(b)

A company which re-purchases its own shares could reduce the supply of shares in the open market; or it can use the shares for a stock option offered for employees. With reduced supply of stock, the stock price increases and the shareholders' wealth also increases.

Answer 4(c)

(i) After the stock split, number of shares = 2,000,000,000

(ii) After the 10% stock dividend, number of shares increased by 10% to 1,100,000,000

Answer 4(d)

(i) With the stock split, the value of a stock will be reduced. It makes the value of the minimum number of stock purchase, called value of the lot size, also reduce. As such, it facilitates more active trading in the stock market.

(ii) With stock dividend, there is no outflow of cash in the company. It is just a transfer of value from retained earnings to common stock. The company can still maintain its distribution policy but it is stock rather than cash.

Answer 4(e)

(i) The company distributed a dividend less than the profit earned in a year because not all of the profit is in the form of cash while dividend distribution is mostly in cash. A company is not able to distribute a cash dividend more than its distributable profits and the cash available in the company; moreover, a company may wish to retain the profit for re-investment in future projects, so that it may distribute a dividend which is less than the profit earned.

(ii) When a company distributes more dividend than the profit earned in a year, it distributes part of the accumulated profit it earned in the past. If there is no profitable investment projects to be taken up by the company, the company may consider to distribute more dividend than the profit earned in a year.

Answer 4(f)

In residual dividend policy, dividend is distributed after the profit is used to finance any project with positive net present value. Any profit left is distributed to the shareholders.

Answer 5(a)

		Segments	
	Company	Government	Commercial
	$'million	$'million	$'million
Revenue	1,000	690	310
Variable expense	454	290	164
Contribution margin	546	400	146
Traceable fixed expenses	154	104	50
Segment margin	392	296	96
Common fixed expenses	282		
Net Profit	110		

Answer 5(b)

Residual Income (RI) = Net profit – (total assets value x cost of capital)
= $110 million – $1,500 million x 10%= – $40 million

Answer 5(c)

Return on Investment (ROI) = Net profit / Total assets value
= $110 million /$1,500 million = 7.3%

Answer 5(d)

(i) The original ROI is 7.3%. With the new project, the new ROI is $150 million / $2,000 million = 7.5%, which is higher than the original ROI. Thus, it is worthwhile to go ahead with the new project. However, since the increase in ROI is not that significant, it is suggested to review the assumptions of the calculation thoroughly.

(ii) Besides ROI, residual income or Economic Value Added (EVA) can also be used for evaluating the projects.

Answer 5(e)

To improve the return on investment, management may consider to reduce the amount of assets involved while maintaining the same level of profit. Alternatively, improve the profit level by increasing revenue and/or reducing expenses while maintaining the same level of assets.

Answer 6(a)

The three objectives of pricing policies include profit maximisation of the company in the short term. Setting a high price, more profit can be generated. Secondly, pricing policy enables a company either to maintain existing market share or to penetrate deeply in the market. Price stabilisation is another objective of pricing policy. Merchants should try to avoid an uncertain atmosphere. Some other objectives may include entry into new markets, achieving a target return and ethical pricing.

Answer 6(b)

The two broad approaches in price setting are cost base pricing and market base pricing. A cost base pricing structure is based on cost plus certain margin. The costing method includes absorption cost, marginal cost, standard cost or relevant cost. For a market base pricing structure, the price is based on market sentiment. The factors considered include market position, competitiveness, strengths and weaknesses.

Answer 6(c)(i)

	per hour	per flight
		$
Fuel	$100,000	150,000
Landing		50,000
Handling		10,000
Meal		21,000
Total		231,000

Cost per head
= $231,000 / 300 passengers = $770

Answer 6(c)(ii)

Ticket price for a single journey = $770 x (1+30%) = $1,001

Answer 6(d)

Even when the cost structures of the airlines are similar, reputation, safety record, service standard, departure time, arrival time, profit margin etc, could lead to a differentiation in the air ticket price.

Answer 6(e)

First class or business class tickets are more expensive because the seats are more spacious. In addition, these passengers are allowed to use the lounge and have priority in reclaiming their baggage. All these additional services would incur higher costs. Also, different clientele and price elasticity of the customer group enable airlines to use a different pricing strategy.

* * * END OF EXAMINATION PAPER * * *

Reference:

Pauline H.Y. Ho, Joseph S.W. Yau, PBE Paper II Management Accounting and Finance, Pearson 2014

Note: The suggested answers given above are much longer and in greater detail than the ones expected of candidates in the examination. The purpose of the suggested answers is meant to help candidates in their revision and learning. Also, these suggested answers may not include all valid points of each question. Credit should be given to candidates who give valid answers to the questions.

(The main purpose of the following report is to summarise candidates' common weaknesses and make recommendations to help future candidates improve their performance in the examination.)

General Comments

Candidates performed quite well in this paper. Their performance proved that they were able to master the basic concept of management accounting and finance but could improve further in applying their knowledge to solve application problems.

Specific Comments

Section A – Compulsory Questions

Question 1 – 25 marks

This question tested candidates' abilities in terms of consolidating information for a commercial real estate development, particularly in the determination of hotel room rates. Students did not perform well in this question as they were not able to work back to derive the revenue from the net profit by adding various expenses. Although this question asked for the bottom-up approach, candidates could check their calculations by following the traditional top-down approach of the income statement.

Question 2 – 15 marks

This question tested candidates' knowledge of raising finance. The calculation part was performed quite well, but some candidates failed to understand the major sources of finance for a company, which are debt and equity.

Section B – Optional Questions

Question 3 – 20 marks

This was the most popular optional question and the performance was the best among all questions in Section B. It assessed candidates' abilities in calculating ratios for inventory and understanding their meanings. Most candidates performed very well, and they could interpret the difference in the inventory turnover ratio in the food and fashion industry.

Question 4 – 20 marks

This question was the least popular optional question. It was about dividend policy. Perhaps candidates were not familiar with this topic and the performance was not good at all. Candidates need to master this topic well as dividend is a kind of distribution of profit, which is an investment return for shareholders.

Question 5 – 20 marks

Candidates' performance was quite well in this question, but could do even better. It asked candidates to construct a segment income statement and to calculate related returns. Many candidates failed to apply their knowledge to assess the change in return on investment (ROI) when new investment opportunities are available and to draw a relevant conclusion.

Question 6 – 20 marks

This question was not very popular among candidates which was unexpected. It was a question on pricing policy and calculating related costs in the airline industry. In fact the calculation was quite straightforward, but the results proved that candidates were weak in applying their knowledge to solve real life problems.

* * * END OF EXAMINATION PANELIST'S REPORT * * *