



Professional Bridging Examination

Paper II PBE Management Accounting and Finance

December 2013 Session (Questions)

Time Allowed	3 hours
Examination Assessment Allocation	
• Section A – All TWO questions are compulsory	40 Marks
• Section B – Answer 3 out of 4 questions	60 Marks

Do not open this question paper until instructed by the supervisor.

This question paper must not be removed from the examination centre.

PAPER II – PBE MANAGEMENT ACCOUNTING AND FINANCE

This examination is divided into TWO sections.

- Section A (40%). This consists of TWO compulsory questions. You should allocate approximately 1 hour 12 minutes in total for Section A.
- Section B (60%). This consists of four questions, of which you must answer THREE questions only. Each of these three questions is worth 20% of the total marks (making Section B worth 60% of the total marks). You should allocate approximately 36 minutes for each question (that is, 1 hour 48 minutes in total for Section B).

Suggested time allocation (by marks):

Marks	Approximate time in minutes
1	2
2	3
3	5
4	7
5	9
6	11
7	12
8	14
9	16
10	18
11	20
12	21
13	23
14	25
15	27
16	29
17	30
18	32
19	34
20	36

SECTION A (COMPULSORY) (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.

CASE

Mr. Yuen is a famous international entrepreneur in the restaurant business and he entered into the catering market in Hong Kong a few years ago. He now operates a number of restaurants in Hong Kong. He is going to open a beef noodle shop in Tai Po. The landlord asks for a monthly rent of HK\$150,000. Based on past experience, rent normally is 15% of the revenue, food costs 30% and labour costs another 30%.

Statistics show that on average, a customer stays in the noodle shop for 20 minutes. The noodle shop will have 30 seats with an average occupancy percentage of 60%. The noodle shop is planned to be open from 10:00 a.m. to 00:00, that is, 14 hours a day.

Initial investment in kitchen equipment costs HK\$600,000 and renovation costs another HK\$500,000. Straight line depreciation is used with no scrap value at the end of the lease period. It is assumed that the electricity charge is HK\$10,000 per month and water costs HK\$5,000 per month, both are relatively fixed in nature. The tax rate is 15%.

The initial term of the lease is 2 years and Mr. Yuen is optimistic that he can renew the lease for another 2 years but the rent may be doubled at that time.

The noodle shop that Mr. Yuen is planning belongs to a type called premium noodle shop. It is not the type of traditional wonton noodle shop that we normally find on the street as he considered the price level is too low. It is also not a Japanese type of noodle shop which costs more than HK\$60 per bowl of noodles. He is considering the pricing of his product, and believes that a price level set between these two types of noodle shop can capture the middle class customers who look for a quality product but at a reasonable price.

To ensure quality, Mr. Yuen insists on producing noodles from fresh raw food materials rather than using processed food materials. He prefers to hire permanent employees rather than part-time staff as this would increase their loyalty.

Question 1 (25 marks – approximately 45 minutes)

- (a) How many customers will visit the noodle shop on average in an hour and in a day?
(3 marks)
- (b) Assuming that there are 30 days in a month, based on the operating hours given, what is the hourly rental expense?
(3 marks)
- (c) Construct a projected Monthly Income Statement for the noodle shop based on the information given. Assume the lease term is 2 years.
(8 marks)
- (d) On a monthly basis, what is the average amount spent by each customer?
(2 marks)
- (e) What are the TWO common costing methods to allocate fixed costs to the noodle product?
(2 marks)
- (f) Based on the two methods you quoted in part (e), calculate the total unit cost for each bowl of noodles. Assume each customer orders only one bowl of noodles, and its selling price is set at the average amount of spending calculated in part (d).

(Answers in Part (f) should be rounded to 2 decimal places.)

(7 marks)

Question 2 (15 marks – approximately 27 minutes)

Mr. Yuen asked his accountant to perform the Net Present Value (NPV) analysis for the noodle shop project. He uses 5% as the cost of capital.

Required:

- (a) Calculate the operating cash flow (OCF) per year if the tax rate is 15%.
(2 marks)
- (b) Based on the 2 years of the lease term, work out the Net Present Value (NPV) of this noodle shop project.
(3 marks)
- (c) If the landlord increases the rent to HK\$300,000 per month which is 30% of the revenue, and if other cost information remains the same, what are the revised operating cash flow (OCF) per year and NPV?
(6 marks)
- (d) Briefly discuss TWO potential operating risks for the noodle business.
(4 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)

Many investors pay attention to comments made by the financial hosts who appear on the TV and radio. Sometimes they suggest investment recommendations based on the past prices and sometimes based on the operation and financial performance of a company. Two important financial performance indicators are earnings per share (EPS) and price-earnings ratio (P/E).

Required:

- (a) When the financial host recommends stocks that are based on past prices, what form of market efficiency is it related to and what is the name of such an analysis?
(4 marks)
- (b) When the financial host recommends stocks based on the published financial statements and news of the company, what form of market efficiency is it related to and what is the name of such an analysis?
(4 marks)
- (c) Besides the two forms of market efficiency mentioned in parts (a) and (b), what is the remaining form of market efficiency? Explain it briefly.
(2 marks)
- (d) A company has profit after tax of HK\$5.5 billion. It has outstanding shares of 3,928,616,825. Calculate the earnings per share.
(2 marks)
- (e) If the price of the stock is HK\$14, what is the price-earnings (P/E) ratio? Explain its meaning.
(4 marks)
- (f) Explain why some people criticise the use of the P/E ratio? State TWO reasons.
(4 marks)

Question 4 (20 marks – approximately 36 minutes)

A company raises its finance through debt and equity. The former is called debt financing and the latter is called equity financing.

Required:

(a) In terms of cost to the company, what is the difference between debt financing and equity financing? (3 marks)

(b) From an investors' perspective, give ONE reason for each of the following:

(i) why do some people prefer debt financing? and

(ii) why do some people prefer equity financing? (4 marks)

(c) From corporate management's perspective, explain whether debt financing or equity financing normally has a higher priority. (3 marks)

(d) A company has the following capital structure as reflected in the Statement of Financial Position:

Assets	HK\$197,873
Debt	HK\$68,828
Equity	HK\$XXX

Find the value of the equity and hence calculate the percentage of debt and equity in the capital structure. (3 marks)

(e) Suggest an alternative method to find out the cost of equity other than by using the Capital Asset Pricing Model (CAPM). No calculation is required. (2 marks)

(f) If the before-tax cost of debt is 3%, cost of equity is 5%, tax rate is 16%, calculate the weighted average cost of capital (WACC) for this company. (5 marks)

Question 5 (20 marks – approximately 36 minutes)

PBE Company produces two types of sunglasses: Regular and Super. The current selling price per unit of Regular sunglasses is HK\$1,500. If the Regular type is processed further and becomes Super with longer durability and better strength, the selling price per unit would be HK\$1,800. Direct materials for the Regular type is HK\$450 per unit, direct labour HK\$300 per unit, variable manufacturing overheads HK\$180 per unit and fixed manufacturing overheads HK\$120 per unit. Further processing would increase direct materials cost by HK\$60, direct labour cost by HK\$120 and variable manufacturing overheads by HK\$72 per unit, with no impact on fixed costs.

Required:

- (a) Using the contribution margin approach, calculate with workings the profit of each unit of Regular sunglasses. (3 marks)
- (b) If each unit of Regular sunglasses is processed further to become Super sunglasses, calculate the profit. Show your workings. (4 marks)
- (c) Based on financial considerations only, what is your recommendation on whether or not to further process Regular into Super? Briefly explain. (3 marks)
- (d) Besides cost information, what other qualitative factors do you need to consider for the decision? Give TWO such reasons. (4 marks)
- (e) Triple Bottom Line is a popular method in evaluating non-financial performance. Explain what Triple Bottom Line is. (6 marks)

Question 6 (20 marks – approximately 36 minutes)

In managing inventory, there is a technique called Economic Order Quantity (EOQ). One of its uses is to reduce inventory cost. The respective formulae are:

$$\text{Total cost} = (Q / 2) \times H + S \times (D / Q)$$

$$\text{EOQ} = Q = \sqrt{(2DS/H)}$$

You are a retailer of coffee maker. You need 1000 coffee makers per year. The cost of each coffee maker is HK\$780. Ordering cost is HK\$100 per order. Carrying cost is 40% of per unit cost. Lead time is 5 days. The retail shop is open 365 days a year.

Required:

- (a) Point out the TWO inventory costs as indicated in the EOQ formula. (2 marks)
- (b) Why is sufficient inventory important to the operation of a company, in particular, in the retailing and manufacturing industries? (2 marks)
- (c) Calculate the Economic Order Quantity (EOQ). (5 marks)
- (d) What is the demand over the lead time? (3 marks)
- (e) Sketch a graph showing the variation of Total Cost (TC) (y-axis) with the order quantity (x-axis). (4 marks)
- (f) Point out ONE advantage and ONE disadvantage for:
 - (i) having a small order, and
 - (ii) having a big order. (4 marks)

* * * END OF EXAMINATION PAPER * * *

Answers

Paper II

PBE Management

Accounting and Finance

(December 2013 Session)

Section A (Total: 40 marks)

Answer 1(a)

The number of customers in an hour is 54 ($30 \times 3 \times 60\% = 54$)

The number of customers in a day is 756 ($30 \times 3 \times 14 \times 60\% = 756$)

Answer 1(b)

The hourly rental expense is HK\$357 ($\text{HK\$}150,000 / 30 / 14 = \text{HK\$}357$)

Answer 1(c)

Monthly income statement

Revenue	(150,000 / 15%)		HK\$1,000,000
Rent		HK\$150,000	
Food cost		HK\$300,000	
Labour		HK\$300,000	
Depreciation	(1,100,000 / 24)	HK\$45,833	
Electricity		HK\$10,000	
Water		<u>HK\$5,000</u>	<u>HK\$810,833</u>
Profit before tax			HK\$189,167
Tax			<u>HK\$28,375</u>
Profit after tax			<u><u>HK\$160,792</u></u>

Answer 1(d)

Spending per customer ($1,000,000 / 30 / 756$) = HK\$44

Answer 1(e)

The two common costing methods to allocate fixed costs to the noodle product are marginal costing (variable costing) and absorption costing.

Answer 1(f)

<u>Costs</u>	Absorption Costing	Variable Costing
Direct material (300,000 / 30 / 756)	HK\$13.22	HK\$13.22
Direct labour (300,000 / 30 / 756)	HK\$13.22	HK\$13.22
Fixed manufacturing overhead *	HK\$9.30	-
Total unit cost	<u>HK\$35.74</u>	<u>HK\$26.44</u>

*Fixed manufacturing overheads per month:

Depreciation	45,833
Electricity	10,000
Rent	150,000
Water	5,000
	<u>210,833</u>

Fixed manufacturing overhead per unit is HK\$9.30 (210,833 / 30 / 756 = 9.30)

Answer 2(a)

The operating cash flow (OCF) per month

= Earnings before Interest and Tax (EBIT) + Depreciation – Tax
 = HK\$189,167 + HK\$45,833 – HK\$28,375 = HK\$206,625

OCF per year = HK\$206,625 x 12 = HK\$2,479,500

Answer 2(b)

	Year 0	Year 1	Year 2
Cash flows	(HK\$1,100,000)	HK\$2,479,500	HK\$2,479,500
Discount rate 5%	1	0.9524	0.9070
PV	(HK\$1,100,000)	HK\$2,361,476	HK\$2,248,907

NPV = HK\$3,510,383

Answer 2(c)

If rent is increased to HK\$300,000, the revised OCF and NPV are:

Revenue		HK\$1,000,000
Rent	HK\$300,000	
Food cost	HK\$300,000	
Labour	HK\$300,000	
Depreciation	HK\$45,833	
Electricity	HK\$10,000	
Water	<u>HK\$5,000</u>	<u>HK\$960,833</u>
Profit before tax		HK\$39,167
Tax		<u>HK\$5,875</u>
Profit after tax		<u><u>HK\$33,292</u></u>

OCF (monthly) $(39,167 + 45,833 - 5,875) = \text{HK}\$79,125$

OCF (per year) $(79,125 \times 12) = \text{HK}\$949,500$

	Year 0	Year 1	Year 2
Cash flows	(HK\$1,100,000)	HK\$949,500	HK\$949,500
Discount rate 5%	1	0.9524	0.9070
PV	(HK\$1,100,000)	HK\$904,304	HK\$861,197

NPV = \$665,501

Answer 2(d)

Two potential operating risks regarding the noodle business include food poisoning and failure to maintain the licence. Fire hazard is also another risk.

* * * END OF SECTION A * * *

Section B (Total: 60 marks)

Answer 3(a)

It is related to weak form market efficiency as it is based on past prices. The analysis is called technical analysis.

Answer 3(b)

It is related to semi-strong form market efficiency as it is based on public information such as accounting information. The analysis is called fundamental analysis.

Answer 3(c)

The remaining one is strong form market efficiency. When no one can make consistent profit from the stock market based on all the information including public and private information, then the market is strong form efficient.

Answer 3(d)

Earnings per share (EPS) = $\text{HK\$}5,500,000,000 / 3,928,616,825 = \text{HK\$}1.40$

Answer 3(e)

Price-earnings ratio (P/E) = $\text{HK\$}14 / 1.4 = 10$. It takes 10 years of current earnings to pay back the original investment.

Answer 3(f)

People criticise P/E as it based on historical profit and such accounting profit is subject to manipulation.

Answer 4(a)

Debt financing is usually cheaper than equity financing as investors demand a higher return from stocks than from debt.

Answer 4(b)

- (i) Some investors prefer debt financing as its return is more stable and they can get back the money at maturity.
- (ii) In equity financing, investors may receive a regular dividend and may enjoy a higher return from increases in stock price.

Answer 4(c)

Normally debt financing comes before equity financing as it is cheaper and it also gives a better signal to investors as more issued stocks would dilute the ownership of existing shareholders.

Answer 4(d)

	HK\$	%
Assets	197,873	
Debt	68,828	34.8%
Equity	129,045	65.2%

Answer 4(e)

Besides using the Capital Asset Pricing Model (CAPM), we may use the dividend growth model to find out the required equity return.

Answer 4(f)

$$WACC = 34.8\% \times 3\% \times (1-16\%) + 65.2\% \times 5\% = 4.14\%$$

Answer 5(a) & 5(b)

	<i>Regular</i>	<i>Super</i>
	HK\$	HK\$
Selling price	1,500	1,800
Less:		
Direct materials	450	510
Direct labour	300	420
Variable manufacturing overheads	180	252
Contribution margin	570	618
Fixed manufacturing overheads	120	120
Profit	450	498

Answer 5(c)

Based on the calculation from part (a) and (b), it is better to produce Super rather than Regular because it generates a higher profit.

Answer 5(d)

Besides cost information, the company needs to consider its ability to produce a quality product and the acceptability of the market. If it is not able to produce a quality product, even if it is very profitable, eventually the trend would disappear. Also, if it is not welcomed by the market, it is not worthwhile to produce it.

Answer 5(e)

Triple bottom line is a metric in measuring economic value, social responsibility (people) and environmental responsibility (planet) for sustainability in business practice and development. It proposes to drop the financial bottom line as a meaningful indicator but replace it by social and environmental dimensions.

Answer 6(a)

The two inventory costs in the EOQ formula include carrying cost and ordering cost.

Answer 6(b)

Sufficient inventory reduces stock out and this would lead to lost sales in retailing or affect the manufacturing operation in the manufacturing industry.

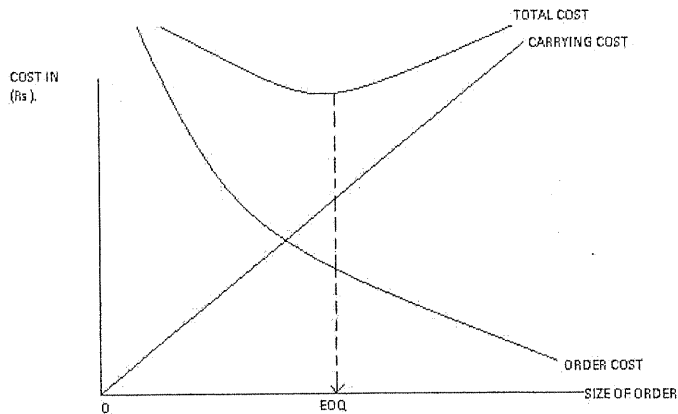
Answer 6(c)

$$= (2 \times 1,000 \times 100 / (\text{HK\$}780 \times 40\%))^{0.5} = 25.3 = 25$$

Answer 6(d)

Daily demand = $1,000/365 = 2.74$
Lead time = 5
Demand = $13.7 = 14$ coffee makers

Answer 6(e)



Answer 6(f)

- (i) Having a small order would reduce the carrying cost but would increase the ordering cost.
- (ii) Having a big order would allow a discount and reduce the ordering cost but would increase inventory cost.

* * * END OF EXAMINATION * * *

Examination Panelist's Report

Paper II
PBE Management
Accounting and Finance
(December 2013 Session)

(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 very well in this paper. They were able to master the basic concept of management accounting but could improve further in finance and to apply their knowledge to solve application problems. If students could perform well in question 2 and question 4, the overall performance could be even better.

Specific Comments

Section A – Compulsory Questions

Question 1 – 25 marks

This question tested candidates' abilities to solve problems related to budgeting for a newly established noodle shop and to allocate fixed costs to the product. Students performed well in this question in general, but most of them failed to show that they understood how to allocate the fixed costs to the noodle product which was a bit disappointing as this forms a core part of management accounting.

Question 2 – 15 marks

This question tested candidates' abilities in doing NPV analysis by using the income statement approach in deriving the operating cash flow. It also asked the candidates to perform sensitivity analysis when the rent was increased. The question also asked the candidates to point out two operating risks in running a noodle shop. Few candidates gave correct answers to this question. This reflected the difficulties that candidates had in extending their accounting knowledge to practical planning.

Section B – Optional Questions

Question 3 – 20 marks

This was the least popular question and the performance was average. It was a typical question on market efficiency, earnings per share and price-earning ratio (PE). Candidates should perform better in such traditional questions on financial management in order to gain more marks.

Question 4 – 20 marks

This question was a typical question on capital structure of weighted average cost of capital (WACC) and debt or equity financing. Surprisingly, the performance was the worst of all questions. It showed candidates' inability to master a basic understanding of the sources of finance from the accounting equation, which were debt and equity.

Question 5 – 20 marks

Candidates' performance was good in this question. It assessed candidates' knowledge of how to solving problems related to "further processing" and the Triple Bottom Line. It showed that candidates had mastered management accounting topics better than financial management topics.

Question 6 – 20 marks

This was the second best question in terms of performance. It tested candidates' knowledge of Economic Order Quantity (EOQ). Students delivered high quality work in terms of applying the formula, graphs and quantitative knowledge. This again reinforced the conclusion that candidates had mastered management accounting topics better than financial management topics, but this paper was almost equally weighted between management accounting and financial management.

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