December 2012

QP Module B – Corporate Financing

Ernst & Young – Mock Exam (5 December 2012)

Question Paper	
Time allowed	3 hours
This paper is divided into two sections	ALL questions are compulsory
<u>Section A</u>	Case study questions
<u>Section B</u>	Essay/Short questions

SECTION A – CASE QUESTIONS (Total: 50 marks)

Answer ALL of the following questions. Marks will be awarded for logical argumentation and appropriate presentation of the answers.

CASE

BHP is in building business that provides a range of building services to the public. In 1998, BHP successfully completed an initial public offering; selling 30 million ordinary shares at $1 each.

30m x $1 = $30m.

Rapid increase in sales

Recently, the sales of BHP have begun to rise rapidly. However, Dr. Chan, Managing Director of BHP, is concerned about the liquidity position and the possibility of "over-trading". To speed up collection from accounts receivable, BHP is considering two alternative policies. One option is to offer a 2% discount to customers who settle within 10 days from the invoice day rather than the normal 30 days offered. It is estimated that 50% of customers would take advantage of this offer. BHP is now borrowing from its banker at an interest rate of 18% per annum on overdraft. //

BHP's second option is to utilise a factor. The factor will operate on a service-only basis, administering and collecting from BHP's customers. This is expected to generate administrative savings of $2 million per annum, and it is hoped, will also shorten the days to collect accounts receivable to an average of 45. The factor will make a service charge of 1.5% of BHP's turnover.

Extracts of Income Statements and Financial Position of BHP are shown in Exhibit 1 and Exhibit 2.

Exhibit 1 (Extract) Income Statements of BHP for the year ended 31 May

	2011 $ million	2012 $ million
Turnover	240	320
Cost of sales*	(140)	(180)
Operating profit	100	140
Interest payable	(4)	(8)
Profit before tax	96	132
Taxation	(20)	(32)
Profit after tax	76	100
Dividends	(30)	(40)
Retained profit	46	60

* Purchases are 50% of the cost of sales

2011 2012
70 90

Exhibit 2 (Extract) Financial Position of BHP as at 31 May

	2011		2012	
	$ million	$ million	$ million	$ million
Property, plant and equipments (net)		180		240
Current assets:				
Inventory	28		44	
Accounts receivable	32		52	
Cash	30	90	2	98
Current liabilities:				
Accounts payable	(10)		(20)	
Other payables	(30)		(24)	
Overdraft	0	(40)	(4)	(48)
10% debenture		(40)		(40)
Net assets		190		250
Ordinary shares		60		60
Retained profits		130		190
Shareholders' funds		190		250

Possible Business

Recently BHP have been asked to quote for garage conversions (GC) and extensions to properties (EP).

BHP has a policy to price all jobs at budgeted total cost plus 50%. Overheads are currently absorbed on a labour hour basis. BHP thinks that a switch to activity based costing (ABC) to absorb overheads would reduce the cost associated to GC and hence make them more competitive.

Overhead category	Overheads ($)	Activity Driver	Total Number of activities	
Supervisor	90,000	Site visits	500	$180 @
Planners	70,000	Planning documents	250	$280 @
Property related	240,000	Labour hours	40,000	$6 @

A typical $\boxed{\text{GC}}$ costs $3,500 in materials and takes 300 labour hours to complete. A GC requires only one site visit by a supervisor and needs only one planning document to be raised. The typical $\boxed{\text{EP}}$ costs $8,000 in materials and takes 500 hours to complete. An EP requires six site visits and five planning documents. In all cases labour is paid $15 per hour.

Required:

Question 1 (20 marks – approximately 36 minutes)

For BHP, identify the reasons for the decline in liquidity and assess the extent to which the company appears to be exhibiting over-trading symptoms. (20 marks)

Question 2 (15 marks – approximately 27 minutes)

Discuss and recommend the options available to BHP to speed up collection from accounts receivable. (15 marks)

Question 3 (15 marks – approximately 27 minutes)

On the possible business:

(a) Calculate the cost and quoted price of a GC and of an EP using labour hours to absorb the overheads. (5 marks)

(b) Calculate the cost and the quoted price of a GC and of an EP using ABC to absorb the overheads. (5 marks)

(c) Assuming that the cost of a GC falls by nearly 7% and the price of an EP rises by about 2% as a result of the change to ABC, suggest possible pricing strategies for the two products that BHP sells and suggest two reasons other than high prices for the current poor sales of the GC. (5 marks)

* * * END OF SECTION A* * *

SECTION B – ESSAY / SHORT QUESTIONS (Total: 50 marks)

Answer ALL of the following questions. Marks will be awarded for logical argumentation and appropriate presentation of the answers.

Question 4 (15 marks – approximately 27 minutes)

NPP is considering raising new capital of RMB$400 million in the bond market for the acquisition of new machinery. The debt would have a term to maturity of four years.

The market capitalisation of the company's equity is RMB$1.2 billion and it has a 25% market gearing ratio (market value of debt to total market value of the company). This new issue would be ranked for payment, in the event of default, equally with the company's other long-term debt and the latest credit risk assessment places the company at AA. Interest would be paid to holders annually.

The company's current debt carries an average coupon of 4% and has three years to maturity. The company's effective rate of tax is 17%.

The current yield curve suggests that, at three years, government treasuries yield 3.5% and at four years they yield 5.1%. The current credit risk spread is estimated to be 50 basis points at AA.

0.5%

If the issue proceeds, the company's investment bankers suggest that a 90 basis point spread will need to be offered to guarantee take up by its institutional clients.

0.9%

Required:

(a) Advise on the coupon rate that should be applied to the new debt issue to ensure that it is fully subscribed.

(2 marks)

(b) Estimate the current and revised market valuation of the company's debt and the increase in the company's effective cost of debt capital.

(8 marks)

(c) Discuss the relative advantages and disadvantages of this mode of capital financing in the context of the company's financial objectives.

(5 marks)

Question 5 (15 marks – approximately 27 minutes)

Edwin plc is considering investing $50,000 in a new machine with an expected life of five years. The machine will have no scrap value at the end of five years. It is expected that 20,000 units will be sold each year at a selling price of $3.00 per unit. Variable production costs are expected to be $1.65 per unit, while incremental fixed costs, mainly the wages of a maintenance engineer, are expected to be $10,000 per year. Edwin plc uses a discount rate of 12% for investment appraisal purposes and expects investment projects to recover their initial investment within two years.

Required

(a) Calculate and comment on the payback period of the project.

(3 marks)

(b) Evaluate the sensitivity of the project's net present value to a change in the following project variables:

(i) Sales volume; (ii) Sales price; and (iii) Variable cost;

Discuss the use of sensitivity analysis as a way of evaluating project risk.

(8 marks)

(c) Upon further investigation it is found that there is a significant chance that the expected sales volume of 20,000 units per year will not be achieved. The sales manager of Edwin plc suggests that sales volumes could depend on expected economic states that could be assigned the following probabilities:

Economic state	Poor	Average	Good
Probability	30%	60%	10%
Annual sales volume (units)	17,500	20,000	22,500

Calculate and comment on the expected net present value of the project.

(4 marks)

__Question 6__ **(20 marks – approximately 36 minutes)**

PGA Co is a European company that sells goods solely within Europe. The recently-appointed financial manager of PGA Co has been investigating the working capital management of the company and has gathered the following information:

Inventory management

The current policy is to order 100,000 ~~units when~~ the inventory level falls to 35,000 units. Forecast demand to meet production requirements during the next year is 625,000 units. The cost of placing and processing an order is €250, while the cost of holding a unit in stores is €0.50 per unit per year. Both costs are expected to be constant during the next year. Orders are received two weeks after being placed with the supplier. You should assume a 50-week year and that demand is constant throughout the year.

Accounts payable management

PGA Co has used a foreign supplier for the first time and must pay $250,000 to the supplier in six months' time. The financial manager is concerned that the cost of these supplies may rise in euro terms and has decided to hedge the currency risk of this account payable.

The following information has been provided by the company's bank:

Spot rate ($ per €):	1.998 ± 0.002
Six months forward rate ($ per €):	1.979 ± 0.004

Money market rates available to PGA Co:

	Borrowing	Deposit
One year euro interest rates:	6.1%	5.4%
One year dollar interest rates:	4.0%	3.5%

Assume that it is now 1 December and that PGA Co has no surplus cash at the present time.

Required

(a) Identify the objectives of working capital management and discuss the conflict that may arise between them.

(3 marks)

(b) Calculate the cost of the current ordering policy and determine the saving that could be made by using the economic order quantity model.

(7 marks)

(c) Evaluate whether a money market hedge, a forward market hedge or a lead payment should be used to hedge the foreign account payable.

(10 marks)

*** * * END OF MOCK EXAM PAPER * * ***
(QUESTIONS)