

MET2
MANUFACTURING ENGINEERING TRIPOS PART IIA

Friday 22 April 2016 9 to 12

Paper 5

Module 3P8: FINANCIAL AND MANAGEMENT ACCOUNTING

Module 3P9: INDUSTRIAL ECONOMICS, STRATEGY AND GOVERNANCE

*Answer **four** questions, one from each of sections **A, B, C and D**.*

*Answers to sections **A, B, C and D** must appear in four separate booklets.*

All questions carry the same number of marks.

*The **approximate** percentage of marks allocated to each part of a question is indicated in the right margin.*

*Write your candidate number **not** your name on the cover sheet.*

STATIONERY REQUIREMENTS

8 page answer booklet x 4
Rough work pad

SPECIAL REQUIREMENTS TO BE SUPPLIED FOR THIS EXAM

CUED approved calculator allowed
Engineering Data Book

10 minutes reading time is allowed for this paper.

You may not start to read the questions printed on the subsequent pages of this question paper until instructed to do so.

SECTION A

Answer **one** question from this section.

1 The balance sheet of Natmas Ltd. as at 31 March 2011 included the following information:

	£
Ordinary share capital, issued and authorised	300,000
Reserves (profit balance)	120,000
10% loan stock (repayable in 2020)	180,000
Fixed assets (after depreciation)	270,000
Net current assets (including balance at bank)	330,000

The company's activities for the year to 31 March 2012 are likely to result in the following expectations:

- (1) All customers will keep to credit terms of two months and suppliers are paid one month after delivery of goods (as in the previous period).
- (2) Goods for resale are purchased at the rate of £93,000 per calendar month (compared with £75,000 for 2010/11) and stocks are to rise to £216 000, by the end of the financial year (compared with £180,000 at 31 March 2011).
- (3) Overhead expenses (excluding interest and depreciation charges) of £138,000, of which £30,000 will be unpaid at the end of 2011/12 (compared with £24,000 as at 31 March 2011).
- (4) Sales of £120,000 per calendar month (compared with £90,000 per calendar month for the year ending 31 March 2011) including a gross profit margin of 25% on selling price.
- (5) No disposal of fixed assets, but additional fixed assets will be purchased for £90,000 cash.
- (6) Provision for depreciation will be raised from an aggregate amount of £180,000 at 31 March 2011 to £234,000.
- (7) The annual interest charges on the company's loans are paid on 1 April for the preceding year.
- (8) The dividend on share capital at 15% provided for in the balance sheet at 31 March 2011 will be paid, and a dividend of 25% on share capital is recommend out of the profits for 2011/12.

On the basis that all expectations are realised

- (a) Provide a profit and loss account for the year ending 31 March 2012. [30%]
- (b) Provide a detailed balance sheet at 31 March 2012 showing comparative figures at 31 March 2011. [30%]
- (c) Provide a summary statement of cash received and paid during the year to 31 March 2012. [20%]
- (d) Explain the pros and cons of preparing a cash flow statement using the indirect method. [20%]

2 The current assets and current liabilities of Zeti & Co at the end of March 2014 are as follows:

	£000	£000
Inventory	5,700	
Trade receivables	<u>6,575</u>	
Total current assets		12,275
Trade payables	2,137	
Overdraft	<u>4,682</u>	
Total current liabilities		<u>6,819</u>
Net current assets		<u>5,456</u>

For the year to end of March 2014, Zeti & Co had sales of £40 million, all on credit, while cost of sales was £26 million.

For the year to end of March 2015, Zeti & Co has forecast that credit sales will remain at £40 million while cost of sales will fall to 60% of sales. The company expects current assets to consist of inventory and trade receivables, and current liabilities to consist of trade payables and the company's overdraft.

Zeti & Co also plans to achieve the following target working capital ratio values for the year to the end of March 2015:

Inventory days: 60 days
 Trade receivables days: 75 days
 Trade payables days: 55 days
 Current ratio: 1.4 times

- (a) Calculate the following for end of March 2014:
- (i) inventory days;
 - (ii) trade receivable days;
 - (iii) trade payable days. [20%]
- (b) Calculate the target acid test ratio of Zeti & Co at the end of March 2015 and compare it to the acid test ratio as at the end of March 2014. [20%]
- (c) Analyse and compare the current asset and current liability positions as at March 2014 and March 2015, and discuss how the working capital financing policy of Zeti & Co would have changed during that period. [40%]
- (d) In order to better understand the working capital financing policy of Zeti & Co, discuss what other information you might require and why. [20%]

SECTION B

Answer *one* question from this section.

3 Chola Plc has £60,000 to spend on capital investment projects. There is currently a choice of three projects: Pepper, Cardamom and Cinnamon. The initial capital outlay is on fixed assets with a five-year life. The cost of capital is 10 %. The interest rate table is given in Fig. 1. Assume that depreciation will be charged on a straight-line basis.

Initial capital outlay	Pepper		Cardamom		Cinnamon	
	£60,000		£30,000		£30,000	
Year	Inflows £	Outflows £	Inflows £	Outflows £	Inflows £	Outflows £
1	52,000	32,000	32,000	15,000	12,000	4,000
2	58,000	24,000	22,000	16,000	10,000	3,000
3	54,000	21,000	19,000	14,000	16,000	4,000
4	4,000	5,000	20,000	13,000	14,000	3,000
5	4,000	2,500	6,000	3,000	12,000	2,000

- (a) Calculate for each of the three projects:
- the payback period;
 - the accounting rate of return (using initial investment);
 - the net present value;
 - the internal rate of return. [50%]
- (b) Write a memo to the management team of Chola Plc highlighting your recommendation on which project(s) to invest in. State your reasons. [30%]
- (c) Explain why *real options* are important in investment appraisal decisions. [20%]

Interest Rate Table

Interest rate p.a., r	Number of years, T	Present value of £1 receivable at the end of T years, $PV = \frac{1}{(1+r)^T}$
5%	1	0.9254
	2	0.9070
	3	0.8638
	4	0.8227
	5	0.7853
	6	0.7462
	7	0.7107
	8	0.6768
	9	0.6446
	10	0.6139
10%	1	0.9091
	2	0.8264
	3	0.7513
	4	0.6830
	5	0.6209
	6	0.5645
	7	0.5132
	8	0.4665
	9	0.4241
	10	0.3855
15%	1	0.8696
	2	0.7561
	3	0.6575
	4	0.5718
	5	0.4972
	6	0.4323
	7	0.3759
	8	0.3269
	9	0.2843
	10	0.2472
20%	1	0.8333
	2	0.6944
	3	0.5787
	4	0.4823
	5	0.4019
	6	0.3349
	7	0.2791
	8	0.2326
	9	0.1938
	10	0.1615

Fig. 1

4 Zorro and Son, a small but specialised engineering business, manufactures and sell three products: M, R and S. For the year ending 30 June 2012 the activity programme is expected to be:

Product	Direct Materials	Direct Wages	Overhead (25% Fixed)	Sales	Total Quantities
	£	£	£	£	Units
M	4,000	8,000	16,000	40,000	400
R	19,200	12,000	24,000	72,000	600
S	12,000	12,000	24,000	60,000	600

(a) Calculate the contribution and profit for the year ending 30 June 2012 if actual activity is as expected. [10%]

(b) Calculate the change in the profits for the year if the business were to accept a sub-contract from a larger firm to produce an additional 50 units of product S at a selling price of £90 each. Assume that the resources would be available subject to the need to buy additional machinery at a cost of £2,300 which, it is estimated, would have a scrap value of £300 after its useful life of 4 years (assuming a straight-line depreciation policy). Use of this machinery would incur annual running costs of £300 per annum. [30%]

(c) Calculate which of the products would provide the largest profit if existing direct labour (as inferred by direct wages in the table above) could be applied to the exclusive production of M, R, or S without any change in the total fixed overheads. It may be assumed that the same type of machining and labour is required in the production of all three products. Assume that direct labour receives the same rate of remuneration whichever product is manufactured. [30%]

(d) Write a report comparing the total profits for the business for the year under (a), (b) and (c) above respectively. Discuss the practical considerations to be borne in mind before deciding whether or not to adopt change from the original plan. [30%]

SECTION C

Answer **one** question from this section.

5 (a) How might a persistent global credit crisis affect the scale and scope of modern firms? [50%]

(b) Why are the concepts of own and cross-price elasticities of demand essential to competitor identification and market definition? [50%]

6 (a) What does the concept of *coopetition* add to Porter's five forces approach to industry analysis? [50%]

(b) How can the value chain help a firm identify its strategic position? [50%]

SECTION D

Answer **one** question from this section.

7 (a) Consider a firm selling two products, A and B, that substitute for each other. Suppose that an entrant introduces a product that is identical to product A. What factors do you think will affect whether a price war is initiated, and who wins the price war? [50%]

(b) Consumers often identify brand names with quality. Do you think branded products usually are of higher quality than generic products and therefore justify their higher prices? Discuss. [50%]

8 (a) Use the logic of the Cournot equilibrium to explain why it is more effective for a firm to build capacity ahead of its rival than it is for that firm to merely announce that it is going to build capacity. [50%]

(b) *Strategic fit* can be defined as the achievement of synergies across related business units resulting in a combined performance that is greater than the units could achieve if they operated independently. Explain how a matrix organisation could result in the achievement of strategic fit. [50%]

END OF PAPER