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UNIVERSITY OF LONDON

279 0097 ZA

BSc degrees and Diplomas for Graduates in Economics, Management, Finance and the Social Sciences, the Diploma in Economics and Access Route for Students in the External Programme

Management Accounting

Tuesday, 13 June 2006 : 2.30pm to 5.30pm

Candidates should answer **FOUR** of the following **EIGHT** questions: **TWO** from Section A, **ONE** from Section B and **ONE** further question from either section. All questions carry equal marks.

Workings should be submitted for all questions requiring calculations. Any necessary assumptions introduced in answering a question are to be stated.

8 column accounting paper is provided. If used, it must be fastened securely inside the answer book.

A hand held calculator may be used when answering questions on this paper but it must not be pre-programmed or able to display graphics, text or algebraic equations. The make and type of machine must be stated clearly on the front cover of the answer book.

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SECTION A

Answer **two** questions from this section and not more than a further **one** question. (You are reminded that four questions in all must be attempted, with at least one from Section B).

1. Ebco Ltd. manufacture three types of electric fire in two operations: machining and finishing. The following estimates of prices, costs and activity relating to the forthcoming year:

Product type	Price per unit	Variable costs	Time in Machining	Time in Finishing	Annual demand
Small	£96	£38	1.5 hour	1 hour	20,000 units
Large	£144	£64	1.5 hours	2 hours	20,000 units
Deluxe	£204	£60	3 hours	4 hours	15,000 units

	Machining	Finishing
Annual capacity	85,000 hours	140,000 hours
Fixed operating cost	£1,088,000	£1,400,000

Required:

- (a) Using the information given above and using the annual capacity as the denominator for allocating the fixed costs calculate the full absorption cost, and % mark up for each of the three products. **(6 marks)**
- (b) There is insufficient production capacity to meet all the annual demand, so in order to make the highest profit the sales manager suggests that the fires with the highest % mark up should be produced first, followed by the next highest % mark up and so on. Using appropriate calculations explain to the sales manager whether or not this would result in the best use of the productive capacity and thus the highest profit for the company. Include in your answer calculations of total manufacturing profit. **(14 marks)**
- (c) Ebco Ltd. is considering using some modern jigs and tools in the finishing operation which would increase annual finishing capacity by 6,000 hours. The annual cost of these jigs and tools is £30,000. Provide calculations to indicate whether Ebco Ltd. should acquire these tools. **(2 marks)**
- (d) The production manager of the Machining Department has submitted a proposal to rearrange certain areas of the production area and appoint an additional supervisor to enable faster setups. This would increase the annual capacity of the Machining Department by 10,000 hours and cost £50,000 per year. Provide calculations to indicate whether Ebco Ltd should implement the change. **(3 marks)**

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2. Babyworld Ltd produces and sells 12,000 folding baby pushchairs per year at a selling price of £250 each. Its current production equipment was purchased two years ago for £1,500,000, has a five-year useful life and can process 16000 units each year. It has a terminal disposal value of £0 and is depreciated on a straight-line basis. The equipment has a current disposal price of £300,000. The emergence of new technology has led Babyworld Ltd to consider either upgrading or replacing the production equipment and has identified two possibilities which would meet the same capacity. The following table presents data for the two alternatives:

	Continue with old machine	Upgrade	Replace
Initial equipment cost	0	£1,800,000	£2,600,000
Variable manufacturing cost per pushchair	£140	£70	£45
Additional annual fixed costs		120,000	30,000
Remaining useful life of equipment	3 years	3 years	3 years
Terminal disposal value of equipment		£0	£0

All equipment costs will continue to be depreciated on a straight-line basis. For simplicity, ignore income taxes. The company's cost of capital is 12%

Required:

- (a) Using appropriate calculations explain whether either of the new alternatives would be preferred financially. **(8 marks)**
- (b) Mary Green is Babyworld Ltd's manager, and her bonus is based on operating profit. She is planning to leave after about a year and her bonus is her primary concern. Explain, with supporting calculations which alternative Mary Green would choose? **(8 marks)**
- (c) If the cost to upgrade the production equipment is somewhat negotiable, what is the maximum initial equipment cost that Babyworld Ltd would be willing to pay to upgrade the old equipment rather than replace it? **(3marks)**
- (d) Using the original information stated above, if the sales quantities were unknown, for what level of sales would the company:
- upgrade the equipment
 - replace the equipment
- (6 marks)**

Discount factor	12%
Year 0	1.000
Year 1	0.893
Year 2	0.797
Year 3	0.712

3. Musac Ltd distributes CD music compilations to retail stores, beauty salons etc. It has a simple business model: Order the CDs; catalogue the CDs on the Musac Ltd Web site; deliver and provide on-site support; bill and collect from the customers. Musac Ltd reported the following costs in April 2006.

Activity	Cost Driver	Quantity	Cost per unit of Cost Driver
Ordering	Number of CD suppliers	80	£250 per supplier
Cataloguing	Number of new titles	200	£20 per title
Delivery and Support	Number of deliveries	800	£15 per delivery
Billing and collection	Number of customers	600	£50 per customer

During April 2006, Musac Ltd purchased 24,000 CDs at an average cost of £8 per disc, and sold them at an average price of £15 per disc. The company incurs no other costs.

Required:

- (a) i. Calculate Musac Ltd's operating profit for April 2006.
 ii. If the total capital employed is £7,200,000, what monthly rate of return on investment does Musac Ltd earn? **(8 marks)**
- (b) Due to competitive pressure Musac Ltd anticipates that, from May onward, in order to maintain the 24,000 sales each month the price must be reduced to an average of £14 per disc. Assuming other costs are the same as in April calculate the company's rate of return on investment for May. **(3 marks)**
- (c) Musac Ltd's workforce is reviewing process improvements. They recommend dropping the marginal suppliers who need a lot of 'hand holding' and whose titles are not very popular. A reduction to 40 suppliers and 150 titles will reduce ordering costs by £8,000 and cataloguing by £2,000. They agree to provide more resources for delivery and support, to increase the number of deliveries to 900, and budget an additional £3000 for this to provide a better service and retain the existing number of customers. There will be no change in costs of billing and collection. 'Calculate the Cost per unit of Cost Driver' which will result from these changes and briefly state why they are different from those shown in the schedule above. **(6 marks)**
- (d) If selling prices are £14 per disc and if the changes described in (c) above are made:
 i. calculate the monthly return on investment
 ii. calculate the number of discs Musac Ltd must sell per month to earn its 1.25% target monthly rate of return on investment. **(4 marks)**
- (e) Comment on the usefulness of Activity Based Costing for this type of business. **(4 marks)**

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4. Curtis Plc is a divisionalised consulting organisation. The IT Division employs highly specialist staff who are difficult to find in the labour market. IT Division usually has sufficient work from outside customers to fully occupy all the staff, but has recently taken on new members of staff and does not have enough work for all staff in the forthcoming year.

The General Consulting (GC) division usually employs different outside companies to do the small amount of IT design which arises as a result of their consulting work for clients. The group policy is that divisions are free to set their own transfer prices and choose suppliers. The group uses residual income to assess divisional performance each year using a cost of capital of 14%. The following data also relates:

IT Division - Budgeted information for the forthcoming year:

Maximum hours available	60,000 hours
Work expected	54,000 hours
External charge out rate	£80 per hour
Variable costs	£10 per hour
Fixed costs	£3,500,000
Capital Employed	£3,300,000
Target residual income	£180,000

IT Division has requested GC Division to use them for any IT work which comes available to GC Division during the forthcoming year.

GC Division has two IT companies which it usually uses. Greatwork Ltd which charges £70 per hour and only accepts work if at least 8,000 hours a year are available. Tryhard Ltd which charges £75 per hour for any number of hours required. GC Division estimates that it will need 8,500 hours of IT work in the forthcoming year

Required:

- (a) Calculate the transfer price per hour which the IT division should quote to meet its residual income target, if GC Division requests a quote for providing all 8,500 hours during the year. **(8 marks)**
- (b) Identify the price which IT Division should set in order that GC division will be prepared to use IT Division for 8,500 hours and calculate IT Division's residual income using this price. **(4 marks)**
- (c) Identify the price which the IT Division should quote if GC Division were prepared to use the IT Division when they had spare capacity such that GC Division did not suffer financially by using IT Division. Calculate the effect of this on the IT Division's residual income. **(8 marks)**
- (d) Recommend with reasons, the price which would be best for the company as a whole. **(5 marks)**

SECTION B

Answer **one** question from this section and **not more than** a further **one** question (You are reminded that four questions in total must be attempted, with at least two from Section A).

5. (a) In relation to the budgetary process explain the meanings of the following terms and the context in which they are used:
- i. Standard cost
 - ii. Flexible budget
 - iii. Management by Exception
 - iv. Bench Marking **(12 marks)**
- (b) Identify and explain six factors which need to be considered when interpreting variances. **(13 marks)**
6. (a) In connection with determination of cost behaviour explain in detail the following methods:
- i. Industrial engineering method
 - ii. Conference method
 - iii. Account analysis method
 - iv. Quantitative analysis method **(20 marks)**
- (b) Define the term 'learning curve' and explain why it needs to be considered in decision making. **(5 marks)**
7. 'The notion of relevant costs is inappropriate for management practice because it ignores past cashflows'. Critically discuss this statement.

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8. (a) Define the terms: prevention costs, appraisal costs, internal failure costs, and external failure costs. **(8 marks)**
- (b) Classify the following items into the categories mentioned in (a) above:
- Inspection of production
 - Design engineering
 - Cost of returned goods
 - Product-testing labour and equipment
 - Customer support
 - Scrap and rework costs
 - Preventive equipment maintenance
 - Incoming materials inspection
 - Breakdown maintenance
 - Warranty repair
 - Supplier evaluation **(6 marks)**
- (c) Explain how information provided by cost of quality analysis would be used by a company. Include in your answer an indication of the limitations of financial analysis and the non-financial indicators which may be used. **(11 marks)**

END OF PAPER