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UNIVERSITY OF LONDON 279 0097 ZB

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. Brown Ltd manufactures three types of office desk in two operations: machining and finishing. The following estimates of prices, costs and activity relate to the forthcoming year:

Product type	**Price per unit**	**Variable costs**	**Time in Machining**	**Time in Finishing**	**Annual demand**
Medium	£48	£22	1 hour	1 hour	20,000 units
Executive	£72	£32	1.5 hours	2 hours	20,000 units
Deluxe	£102	£36	2 hours	4 hours	15,000 units

	Machining	**Finishing**
Annual capacity	100,000 hours	80,000 hours
Fixed operating cost	£640,000	£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 desks 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) Brown 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 Brown Ltd should acquire these tools. **(3 marks)**

(d) The production manager of the Machining Department has submitted a proposal to do faster setups which would increase the annual capacity of the Machining Department by 10,000 hours and cost £5,000 per year. Provide calculations to indicate whether Brown Ltd should implement the change. **(2 marks)**

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2. Jenkins Ltd produces and sells 6,000 digital cameras per year at a selling price of £500 each. Its current production equipment was purchased two years ago for £1,500,000, has a five-year useful life and can process 8000 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 Jenkins 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	£2,900,000
Variable manufacturing cost per camera	£280	£160	£80
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. **(6 marks)**

(b) Joe Strong (Jenkins Ltd's manager) receives a bonus based on operating profit. He is planning to leave after about a year and his bonus is his primary concern. Explain, with supporting calculations which alternative Joe Strong would choose. **(8 marks)**

(c) Assuming that Jenkins Ltd has decided not to continue with the old machine, at what initial equipment cost would the company be indifferent between upgrading it and replacing it? **(3marks)**

(d) Using the original information stated above, if the sales quantities were unknown, for what level of sales would the company:

i. upgrade the equipment rather than continuing with old machine?
ii. replace the equipment rather than continue with the old machine?

(4 marks)

(e) Briefly explain the terms Accounting Rate of Return and Internal Rate of Return. **(4 marks)**

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

3. Gamesmaster Ltd distributes video games to retail stores and video-game cafés. It has a simple business model: Order the video games; catalogue the games on Gamesmaster Ltd's Web site; deliver and provide on-site support; bill and collect from the customers. Gamesmaster Ltd reported the following costs in April 2006:

Activity	Cost Driver	Quantity	Cost per unit of Cost Driver
Ordering	Number of game suppliers	40	£250 per supplier
Cataloguing	Number of new titles	100	£20 per title
Delivery and Support	Number of deliveries	400	£15 per delivery
Billing and collection	Number of customers	300	£50 per customer

During April 2006, Gamesmaster Ltd purchased 12,000 video-game disks at an average cost of £15 per disk, and sold them at an average price of £22 per disk. Gamesmaster Ltd incurs no costs other than those detailed above.

Required:

(a) i. Calculate Gamesmaster Ltd's operating income for April 2006.
ii. If the total capital employed is £3,600,000, what monthly rate of return on investment does Gamesmaster Ltd earn? **(8 marks)**

(b) The current crop of games is maturing, and prices are declining. Gamesmaster Ltd anticipates that from May onward, in order to maintain the 12,000 sales each month the price must be reduced to £18 per game. Suppliers' prices will reduce to an average £12 per game. Assuming other costs are the same as in April, calculate Gamesmaster Ltd's budgeted rate of return on investment for May. **(3 marks)**

(c) To improve their profits in May, Gamesmaster Ltd's workforce is looking for process improvements. They recommend dropping the marginal suppliers whose titles are less popular. A reduction to 30 suppliers and 75 titles will reduce ordering costs by £4,000 and cataloguing by £500. They agree to provide more resources for delivery and support, increasing the number of deliveries to 450, and budgeting 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 the Cost Driver' which will result from these changes and briefly state why they are not the same as shown in the schedule above. **(6 marks)**

(d) If selling prices are £18 per game, the cost is £12 per game, and the changes described in (c) above are made:

i. Calculate the monthly return on investment
ii. Calculate the number of games Gamesmaster Ltd must sell per month to earn its1.25% target monthly rate of return on investment?

(4 marks)

(question continues on next page)

(e) Comment on the usefulness of Activity Based Costing for this type business.
(4 marks)

4. Pattersons Ltd., manufactures equipment. It has several divisions operating as separate profit centres. Each divisional manager has full authority over decisions concerning the purchase and sale of their division's products to outsiders and to other divisions of the company. Division P currently makes a product (JL1) specifically for Division Q.

Details of the operating data for component JL1 for the forthcoming period are as follows:

Q's annual purchases of product	JL1	10,000 units
P's variable cost per unit of product	JL1	£80
P's fixed cost per unit of product	JL1	£30

Division Q further enhances JL1 at a variable cost of £25 and sells the resulting product (ML1) for £180. Division Q cannot increase the price of this product due to market pressures. For the forthcoming period Division P will increase all its product prices by 20% due to cost pressures which threaten its ability to meet Head Office target returns. It will increase Component JL1 by 20% to £150. Division Q has discovered another manufacturer who will make JL1 for £135 per unit and is thinking of moving its custom to this supplier.

Required:

(a) Calculate the impact of the change in the price of product JL1 on the profits of each division and the company as a whole, if there are no alternative uses for the internal facilities at Division P. What price would you recommend?
(8 marks)

(b) For **each** of the following situations explain the trading arrangement and transfer price of JL1 which would be most suitable in ensuring that managers, acting in their divisions' best interests also take actions that are in the best interest of the whole company :

i. The internal facilities of Division P, if not used to produce the 10,000 units of JL1, would be used for other production operations resulting in annual cash-operating savings of £600,000. **(6 marks)**

ii. One of the products, The Ravamotor, made by Division P has the following details:

Estimated sales 5,000 units	
Unit Selling price	£1,600
Unit Variable costs	£1,000
Unit allocated Fixed costs	£400

(question continues on next page)

The main product requires time on a type of machine also used to make component JL1.
Each unit of the main product needs 4 hours on this type of machine. Each unit of JL1 requires 1 hour. The machines of this type have a capacity of 30,000 hours per year and are currently working at full capacity. Division P has recently developed a market for 2000 more units of the Ravamotor.

(6 marks)

(c) Define the term 'Goal Congruence' and indicate its importance in setting transfer prices. **(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) Describe the following types of costing system and for each type of system give two examples of industries which you would expect to use the system:

Process costing
Job costing
Batch costing
Contract costing **(10 marks)**

(b) Discuss the relative merits of Variable Costing and Absorption Costing for management decision making and control. **(15 marks)**

6. (a) Describe each of the following budgets and explain the interrelationships between them: Capital Expenditure budget; Revenue budget; Cash budget. **(6 marks)**

(b) Describe in detail six functions of Budgeting, indicating why each function is considered important. **(19 marks)**

7. (a) Explain the meaning of 'Lead' and 'Lag' performance indicators. **(4 marks)**

(b) Describe the design and purpose of the balanced scorecard. **(12 marks)**

(c) Discuss the usefulness of the Balanced Scorecard in the light of the findings of Ittner and Larcker (2005). **(9 marks)**

8. Describe the current concerns with the strategic relevance of management accounting and discuss the extent to which they are technology driven.

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