

## MANAGEMENT ACCOUNTING CONTROL SYSTEMS 21BSC007

Semester 1 2021/22

(1b) Exam paper

**Section A – Answer ALL questions**  
**All questions carry equal marks.**  
**Section B – Answer ONE of TWO questions**  
**Section C – Answer ONE of TWO questions**

### Additional Instructions

This is a (1b) online assessment examination, meaning you have a total of **2 hours plus an additional 30 minutes** to complete and submit this paper. The additional 30 minutes are for downloading the paper and uploading your answers when you have finished. If you have extra time or rest breaks as part of a Reasonable Adjustment, you will have further additional time as indicated on your exam timetable.

**It is your responsibility to submit your work by the deadline for this examination. You must make sure you leave yourself enough time to do so.**

**It is also your responsibility to check that you have submitted the correct file.**

#### Exam Help

If you are experiencing difficulties in accessing or uploading files during the exam period you should contact the exam helpdesk. For urgent queries please call **01509 222900**.

For other queries email [examhelp@lboro.ac.uk](mailto:examhelp@lboro.ac.uk)

For questions requiring quantitative or narrative answers, you are **free** to **hand-write** or **type** them, the latter (typed) being preferred. A mix of hand-written and typed answers is also acceptable.

For questions requiring graphical answers, you are **free** to use a **drawing tool** (e.g. the Shapes tool in MS Word) or **hand-draw** them, the latter being preferred.

You may use any calculator (not just those on the University's approved list).

This is an **open book exam** and you may refer to module materials, notes or textbooks when answering. **You may not however copy or reproduce content wholesale from module materials.** Students who do this will be marked down for poor scholarship.

You must clearly identify the question and part as required in your answer. If you wish you may include the relevant exam question and/or part as a heading.

You may include headings, bullet points etc to help with clarity as required. Graphs and images may also be included and should be appropriately referenced.

In text citations should use the Harvard style in accordance with the School of Business and Economics guidelines. You do not need to include a reference list.

Discursive responses should not exceed 1,000 words per hour of exam time, i.e. Section C answers should be limited to a maximum of 600-700 words excluding diagrams.

**All marks remain provisional until moderated.**

**SECTION A**  
**Answer ALL questions**

1. There is a widely held view that bottom-up budgeting leads to improved managerial motivation and performance within an organisation. However, there are situations for which top-down budgeting is preferable. Describe **three** situations where top-down budgeting would be more applicable.

(6 marks)

2. The Corporate Finance Institute (2021) states that Beyond Budgeting is the idea of abolishing traditional budgeting processes to eventually improve management control over an organisation. Briefly discuss **two** reasons why traditional budgeting causes significant problems within a rapidly changing business environment. You should use a company of your choice to provide context for your answer.

(6 marks)

3. The following information relates to the Media Division of Lough Power Limited:

Media Division profit before tax	£ 50,000
Media Division profit after tax	£ 40,000
Media Division investment	£120,000
Cost of capital	10%

Required:

Calculate the Return on Investment (ROI) and Residual Income (RI) for the Media Division

(6 marks)

4. Within a divisionalised company, divisional managers have responsibility for and will be judged on their division's performance. They will act independently, autonomously and selfishly in the best interests of their own division. How can an organisation ensure that its responsibility accounting systems achieve goal congruence?

(6 marks)

5. State two advantages and two disadvantages of zero-based budgeting (ZBB)

(6 marks)

## SECTION B

### Answer ONE question

Each question is worth 40 marks in total.

6. Ball Co is a company specialising in the manufacture and sale of cycles. Each cycle consists of a main carbon fibre frame plus a set of cycle fittings. The company is split into two divisions, X and Y. Division X manufactures the carbon fibre frame and Division Y manufactures sets of cycle fittings. Currently, all of Division X's sales are made externally. Division Y, however, sells to Division X as well as to external customers. Both of the divisions are profit centres.

The following data is available for both divisions:

#### Division X

Current selling price for each cycle	£450
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#### *Costs per cycle:*

Fittings from Division Y	£75
Other materials from external suppliers	£200
Labour costs	£45
Annual fixed overheads	£7,440,000

Annual production and sales of cycles (units) is 80,000

Maximum annual market demand for cycles (units) is 80,000

#### Division Y

Current external selling price per set of fittings	£80
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Current price for sales to Division X	£75
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#### *Costs per set of fittings:*

Materials	£5
Labour costs	£15
Annual fixed overheads	£4,000,000

Annual production and sales of sets of fittings (units) is 200,000 (including internal and external sales)

Maximum annual **external** demand for sets of fittings (units) is 180,000

Maximum annual **internal** demand for sets of fittings (units) is 80,000

The current transfer price charged by Division Y to Division X was negotiated by divisional managers five years ago but it is evident that these prices need to be reviewed and updated. Head Office requires Division X to purchase its fittings from Division Y, although the manager of Division X believes that she could obtain fittings of the same

quality for £65 per set from outside the company. There are no cost savings from Division Y supplying internally to Division X rather than selling externally.

**Required:**

*Show all workings*

(a) Under the current transfer pricing system, prepare a profit statement showing the profit for each of the divisions and for Ball Co as a whole. Your sales and costs figures should be split into external sales and inter-divisional transfers, where appropriate.

(10 marks)

(b) Head Office is considering changing the transfer pricing policy to ensure maximisation of company profits without demotivating either of the divisional managers. Division X will be given autonomy to buy from external suppliers and Division Y to supply external customers in priority to supplying to Division X.

Calculate the maximum profit that could be earned by Ball Co if transfer pricing is optimised.

(10 marks)

(c) Discuss the issues of encouraging divisional managers to take decisions in the interests of the company as a whole, where transfer pricing is used. Provide a reasoned recommendation of a policy Ball Co should adopt.

(12 marks)

(d) Discuss how a management accountant might help in resolving the issues identified in (c) above.

(8 marks)

(40 marks)

7. The Battery division (Division B) and the Conductor division (Division C) are two divisions of a large vehicle manufacturing company. Whilst both divisions operate in almost identical markets, each division operates separately as an investment centre.

Each month, operating statements must be prepared by each division and these are used as a basis for performance measurement for the divisions.

Last month, senior management decided to recharge head office costs to the divisions. Consequently, each division is now going to be required to deduct a share of head office costs in its operating statement before arriving at 'net profit', which is then used to calculate return on investment (ROI). Prior to this, ROI has been calculated using controllable profit only. The company's target ROI, however, remains unchanged at 20% per annum. For each of the last three months, Divisions B and C have maintained ROIs of 22% per annum and 23% per annum respectively, resulting in healthy bonuses being awarded to staff. The company has a cost of capital of 10%.

The budgeted operating statement for the month of July is shown below:

	B	C
	<u>£'000</u>	<u>£'000</u>
Sales revenue	1,300	1,500
Less variable costs	(700)	(800)
	_____	_____
Contribution	600	700
Less controllable fixed costs	(134)	(228)
	_____	_____
Controllable profit	466	472
Less apportionment of head office costs	(155)	(180)
	_____	_____
Net profit	311	292
	_____	_____
Divisional net assets	£23.2m	£22.6m

**Required:**

*Show all workings*

(a) Calculate the expected annualised Return on Investment (ROI) using the new method as preferred by senior management, based on the above budgeted operating statements, for each of the divisions.

(4 marks)

(b) The divisional managing directors are unhappy about the results produced by your calculations in (a) and have heard that a performance measure called 'residual income' may provide more information.

Calculate the annualised residual income (RI) for each of the divisions, based on the net profit figures for the month of July.

(6 marks)

(c) Discuss the expected performance of each of the two divisions, using both ROI and RI, and making any additional calculations deemed necessary. Conclude as to whether, in your opinion, the two divisions have performed well.

(12 marks)

(d) Division B has now been offered an immediate opportunity to invest in new machinery at a cost of \$2.12 million. The machinery is expected to have a useful economic life of four years, after which it could be sold for \$200,000. Division B's policy is to depreciate all of its machinery on a straight-line basis over the life of the asset. The machinery would be expected to expand Division B's production capacity, resulting in an 8.5% increase in contribution per month.

Recalculate Division B's expected annualised ROI and annualised RI, based on July's budgeted operating statement after adjusting for the investment. State whether the managing director will be making a decision that is in the best interests of the company as a whole if ROI is used as the basis of the decision.

(10 marks)

(e) Explain any behavioural problems that will result if the company's senior management insist on using solely ROI, based on net profit rather than controllable profit, to assess divisional performance and reward staff.

(8 marks)

(40 marks)

## **SECTION C**

**Answer ONE question**

**All questions are worth 30 Marks in total.**

**All questions refer to the pre-seen case study with relevant extracts reproduced below.**

**Extracts from pre-seen case study** (given to students in advance and reproduced below)

### **Budgetary Control Systems**

Within the non-operational side of the business, LPL has recently extended its budgetary control and responsibility accounting system. A series of quarterly cost control reports are produced and distributed to each division and the senior management team.

Overspending against budgeted expenditure is not tolerated by the senior management team and explanations for variances are robustly challenged. Divisional Managers are expected to produce an action plan to ensure that corrective actions are taken to maintain levels of profitability.

You have recently been appointed as Management Accountant and recently met with Julie McGraw, the UK production manager. She does not support the company's budgetary control system and has recently been quoted as saying:

'Budgeting is a waste of time. I don't see the point of it. It tells us what we can't afford but it doesn't keep us from buying it. It simply makes us invent new ways of manipulating figures. If all levels of management aren't involved in the setting of the budget, they might as well not bother preparing one.'

### **Charitable Donations**

Richard Steed (CEO) is a generous supporter of a well-known global charity and as such has a particular interest in how well the organisation is managed and controlled. In 2020 he approved a company donation to the charity of £75,000 and also donated £500 personally. Richard has researched the aims and objectives of the charity which are as follows:

- To relieve poverty, distress and suffering
- To educate people about the nature, causes and effects of poverty
- To campaign for a fairer world
- To encourage western nations to supply aid to third world countries

\*\*\*\*\*End of case study extract\*\*\*\*\*



**8. Required:**

Write a report to Julie McGraw, UK Production Manager that draws on academic literature to:

- (a) Identify and critically discuss six objectives of a budgetary control system within a complex fast-moving environment such as Lough Power Limited (LPL).
- (b) Discuss the concept of a participative style of budgeting in terms of the six objectives you have identified

**9. Required:**

The absence of the profit measure in non-profit seeking organisations causes problems for the measurement of their efficiency and effectiveness. Write a report to Richard Steed, CEO, to:

- (a) Critically discuss (drawing upon academic literature) the characteristics of good quality management accounting information in a Not-For-Profit organisation
- (b) Suggest suitable sources of information to measure performance in the absence of the profit measure in a Not-For-Profit Organisation. Evaluate the usefulness and limitations of this information.

**MARK WORDLEY**