

Fundamentals Level – Skills Module

Performance Management

September/December 2017 – Sample Questions



Time allowed: 3 hours 15 minutes

This question paper is divided into three sections:

Section A – ALL 15 questions are compulsory and **MUST** be attempted

Section B – ALL 15 questions are compulsory and **MUST** be attempted

Section C – BOTH questions are compulsory and **MUST** be attempted

Formulae Sheet is on page 4.

Do NOT open this question paper until instructed by the supervisor.

Do NOT record any of your answers on the question paper.

This question paper must not be removed from the examination hall.

Think Ahead

ACCA

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Paper

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Section C – Both questions are compulsory and MUST be attempted

Please write your answers to all parts of these questions on the lined pages within the Candidate Answer Booklet.

- 31** TR Co is a pharmaceutical company which researches, develops and manufactures a wide range of drugs. One of these drugs, 'Parapain', is a pain relief drug used for the treatment of headaches and until last month TR Co had a patent on Parapain which prevented other companies from manufacturing it. The patent has now expired and several competitors have already entered the market with similar versions of Parapain, which are made using the same active ingredients.

TR Co is reviewing its pricing policy in light of the changing market. It has carried out some market research in an attempt to establish an optimum price for Parapain. The research has established that for every \$2 decrease in price, demand would be expected to increase by 5,000 batches, with maximum demand for Parapain being one million batches.

Each batch of Parapain is currently made using the following materials:

Material Z: 500 grams at \$0.10 per gram
Material Y: 300 grams at \$0.50 per gram

Each batch of Parapain requires 20 minutes of machine time to make and the variable running costs for machine time are \$6 per hour. The fixed production overhead cost is expected to be \$2 per batch for the period, based on a budgeted production level of 250,000 batches.

The skilled workers who have been working on Parapain until now are being moved onto the production of TR Co's new and unique anti-malaria drug which cost millions of dollars to develop. TR Co has obtained a patent for this revolutionary drug and it is expected to save millions of lives. No other similar drug exists and, whilst demand levels are unknown, the launch of the drug is eagerly anticipated all over the world.

Agency staff, who are completely new to the production of Parapain and cost \$18 per hour, will be brought in to produce Parapain for the foreseeable future. Experience has shown there will be a significant learning curve involved in making Parapain as it is extremely difficult to handle. The first batch of Parapain made using one of the agency workers took 5 hours to make. However, it is believed that an 80% learning curve exists, in relation to production of the drug, and this will continue until the first 1,000 batches have been completed. TR Co's management has said that any pricing decisions about Parapain should be based on the time it takes to make the 1,000th batch of the drug.

Note: The learning co-efficient, $b = -0.321928$

Required:

- (a) Calculate the optimum (profit-maximising) selling price for Parapain and the resulting annual profit which TR Co will make from charging this price.**

Note: If $P = a - bQ$, then $MR = a - 2bQ$ (12 marks)

- (b) Discuss and recommend whether market penetration or market skimming would be the most suitable pricing strategy for TR Co when launching the new anti-malaria drug.** (8 marks)

(20 marks)

32 Sports Co is a large manufacturing company specialising in the manufacture of a wide range of sports clothing and equipment. The company has two divisions: Clothing (Division C) and Equipment (Division E). Each division operates with little intervention from Head Office and divisional managers have autonomy to make decisions about long-term investments.

Sports Co measures the performance of its divisions using return on investment (ROI), calculated using controllable profit and average divisional net assets. The target ROI for each of the divisions is 18%. If the divisions meet or exceed this target the divisional managers receive a bonus.

Last year, an investment which was expected to meet the target ROI was rejected by one of the divisional managers because it would have reduced the division's overall ROI. Consequently, Sports Co is considering the introduction of a new performance measure, residual income (RI), in order to discourage this dysfunctional behaviour in the future. Like ROI, this would be calculated using controllable profit and average divisional net assets.

The draft operating statement for the year, prepared by the company's trainee accountant, is shown below:

| | Division C \$'000 | Division E \$'000 |
|--|----------------------|----------------------|
| Sales revenue | 3,800 | 8,400 |
| Less variable costs | (1,400) | (3,030) |
| Contribution | 2,400 | 5,370 |
| Less fixed costs | (945) | (1,420) |
| Net profit | 1,455 | 3,950 |
| Opening divisional controllable net assets | 13,000 | 24,000 |
| Closing divisional controllable net assets | 9,000 | 30,000 |

Notes:

- (1) Included in the fixed costs are depreciation costs of \$165,000 and \$460,000 for Divisions C and E respectively. 30% of the depreciation costs in each division relates to assets controlled but not owned by Head Office. Division E invested \$2m in plant and machinery at the beginning of the year, which is included in the net assets figures above, and uses the reducing balance method to depreciate assets. Division C, which uses the straight-line method, made no significant additions to non-current assets. It is the policy of both divisions to charge a full year's depreciation in the year of acquisition.
- (2) Head Office recharges all of its costs to the two divisions. These have been included in the fixed costs and amount to \$620,000 for Division C and \$700,000 for Division E.
- (3) Sports Co has a cost of capital of 12%.

Required:

- (a) (i) Calculate the return on investment (ROI) for each of the two divisions of Sports Co. (6 marks)
- (ii) Discuss the performance of the two divisions for the year, including the main reasons why their ROI results differ from each other. Explain the impact the difference in ROI could have on the behaviour of the manager of the worst performing division. (6 marks)
- (b) (i) Calculate the residual income (RI) for each of the two divisions of Sports Co and briefly comment on the results of this performance measure. (4 marks)
- (ii) Explain the advantages and disadvantages of using residual income (RI) to measure divisional performance. (4 marks)

(20 marks)

Formulae Sheet

Learning curve

$$Y = ax^b$$

Where Y = cumulative average time per unit to produce x units

a = the time taken for the first unit of output

x = the cumulative number of units produced

b = the index of learning ($\log LR / \log 2$)

LR = the learning rate as a decimal

Demand curve

$$P = a - bQ$$

$$b = \frac{\text{change in price}}{\text{change in quantity}}$$

a = price when Q = 0

$$MR = a - 2bQ$$

End of Question Paper