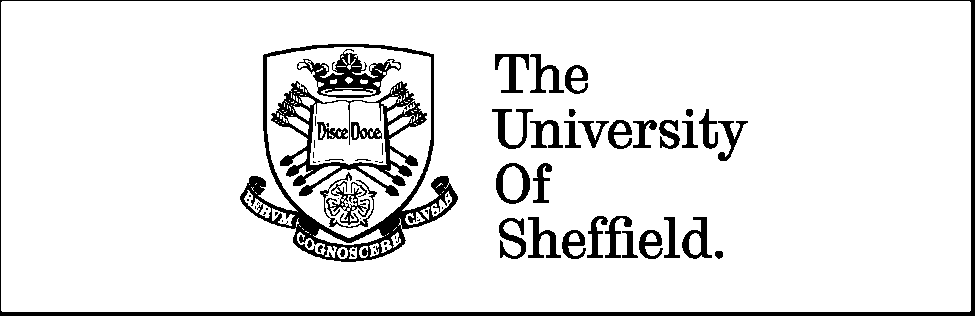
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**MGT388**

**MANAGEMENT SCHOOL Autumn Semester**

**Finance and Law for Engineers 1 Hour 30 minutes**

**Answer TWO questions only from three**

**All questions carry equal marks**

**Questions start from page two onwards**

**Present value tables attached**

**Question One**

The financial statements for Carter Ltd, an electrical engineering company has historically been situated in Scotland but has recently begun expanding across the border to England, are as follows:

**Income Statement**

**30 April 2015 30 April 2014**

£’000 £,000

Revenue 405,000 297,000

Cost of sales (315,900) (231,660)

Gross profit 89,100 65,340

Distribution costs (16,200) (13,500)

Administration expenses (24,300) (24,840)

Operating profit 48,600 27,000

Interest payable (4,725) (1,350)

Profit before taxation 43,875 25,650

Taxation (15,525) (8,100)

Profit for the year 28,350 17,550

**Statement of Financial Position**

**30 April 2015 30 April 2014**

£’000 £’000

**Assets**

Non-current assets 399,600 229,500

**Current assets**

Inventory 41,850 32,400

Trade receivables 29,700 21,600

Bank 1,350 13,500

72,900 67,500

**Total assets** 472,500 297,000

**Equity and liabilities**

**Equity**

Ordinary shares of £1 each 216,000 216,000

Retained earnings 40,500 27,000

256,500 243,000

**Non-current liabilities**

10% Debentures 148,500 13,500

**Current liabilities**

Trade payables 56,700 35,100

Tax payable 10,800 5,400

67,500 40,500

**Total equity and liabilities** 472,500 297,000

**REQUIRED**

1. Carter Ltd is a Limited company, explain the term “ limited company” and how it differs from a public Limited company **(6 marks)**
2. The notes to the accounts state that they have been prepared under the accruals concept explain what you understand by the accruals concept and how it would have been applied at arriving at the figures for non-current assets in the statement of financial position and “profits” within the income statement.

**(12 marks)**

1. Calculate the following ratios for Carter Ltd for the years ended 30 April 2014 and 2015:

Return on year end capital employed

Net assets turnover

Gross profit margin

Operating profit margin

Current ratio

Interest cover

Gearing  **(21 marks)**

1. Comment on the profitability, liquidity and solvency of Carter plc from the ratios you have calculated in part (c). **(11 marks)**

**(Total 50marks)**

**Question Two**

Morris Ltd manufactures computer games. The industry is very competitive with new products constantly being introduced to the market.

Morris Ltd has two games on the market currently a tennis based game and a flight simulation based game. The direct costs for the tennis game are £5.80 and for the flight simulation game £6.30. In the period under review Morris Ltd produce 2,500 tennis games and 3,200 flight simulation games.

The games go through three production centres before they are ready for the market:

Production department 1 is labour intensive with each tennis game requiring 2 labour hours and each flight simulation game 2.5 labour hours.

Production department 2 is highly mechanised with each tennis game requiring 3 machine hours and each flight simulation game 1.5 machine hours.

Production department 3 is the packaging of the finished product.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Production department 1 | Production department 2 | Production department 3 |
| Labour hours | 13,000 | 4,500 | 150 |
| Machine hours | 4,200 | 12,300 | 100 |

The production overheads were: £

Department 1 26,000

Department 2 40,590

Department 3 9,975

As Morris Ltd is in a very competitive business it spends approximately £16,000 a year on marketing and attending trade fairs with a further £15,000 per year on distribution.

**REQUIRED**

1. Explain what you understand by the term absorption costing in you answer explain the prime cost and the product cost **(9 marks)**
2. Define the term “period cost”, highlight the period costs of Morris Ltd. **(6 marks)**
3. Calculate the product cost for the tennis game and the flight simulation game.

**(20 marks)**

1. Consider how Morris Ltd should price its computer games. Your answer should contain reference to market pricing, cost plus pricing and pricing based on the life cycle of a product.  **(15 marks)**

**Total 50 marks**

**Question 3**

Luther Ltd manufactures lightweight rucksacks, the cost structure for the business based on production of 30,000 rucksacks is:

£

Direct material (variable) 180,000

Direct labour (variable) 240,000

Overheads (fixed) 120,000

Total costs 540,000

The sales price for each rucksack is £25.

Luther Ltd has recently received an order from a French retailer to supply them with 5,000 rucksacks for £82,500.

At present the factory has a capacity to produce 35,000 rucksacks.

Luther Ltd is considering an investment opportunity expanding production into cricket bags as a local company, CB Ltd, specialising in the supply of these bags is being sold. Luther Ltd has looked at the accounts of the local company and estimates the following cash flows:

|  |  |  |
| --- | --- | --- |
| Year | Cash inflow | Cash outflow |
| 1 | 120,000 | 40,000 |
| 2 | 150,000 | 45,000 |
| 3 | 150,000 | 45,000 |
| 4 | 170,000 | 50,000 |
| 5 | 180,000 | 80,000 |
| 6 | 180,000 | 80,000 |

The increase in costs in year 4 is to bring in a new machine which will increase production capacity. After year 6 Luther Ltd would need to incur substantial costs in modernising the factory.

The price being asked for the business is £350,000

The cost of capital for Luther Ltd is 8%

**REQUIRED**

1. Define the terms “variable cost”, “fixed costs” and “contribution”.

**(6 marks)**

1. Explain the importance of contribution in short term decision making **(4 marks)**
2. Advise the directors of Luther Ltd on whether to accept or reject the order from a French retailer, calculating contribution and any relevant profit figures  **(10 marks)**
3. Explain how your answer would change if in accepting the French order fixed costs increased by 10% and Luther Ltd would have to turn down an order for 300 rucksacks from a current customer at the normal retail value of £25 . **(8 marks)**
4. Calculate the accounting rate of return, the payback period and the net present value for purchase CB Ltd  **(14 marks)**
5. Advise the directors of Luther Ltd on the acquisition on the cricket bag company highlighting the limitations of the capital investment appraisal techniques applied above.  **(8 marks)**

**Total 50 marks**

