

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Advanced GCE

BUSINESS STUDIES

2877

Further Operations Management

Wednesday **26 JANUARY 2005** Morning 1 hour 30 minutes

Additional materials:
Answer Booklet

TIME 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre number and candidate number in the spaces provided on the answer booklet.
- Answer **all** questions.
- Write your answers on the separate answer booklet provided.
- If you use extra sheets of paper, fasten these sheets securely to the answer booklet.
- Read each question carefully and make sure you know what you have to do before starting your answer.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is 60.
- You will be awarded marks for the quality of written communication where an answer requires a piece of extended writing.

This question paper consists of 3 printed pages and 1 blank page.

Greenfield Farm Foods (GFF)

Greenfield Farm is located in the West Country. Until 1988, it was solely a dairy farm. However, when milk quotas were introduced to limit production, Greenfield had to look for ways to diversify using its milk surplus, or the business would not survive. Greenfield had vacant farm buildings which were suitable for conversion and the owners, Will and Jenny King, were keen to learn completely new skills, so they both attended different catering courses at the local FE college. 5

Various dairy products were considered such as cheese and yoghurt but eventually Will and Jenny opted for ice cream. The very first batch of Greenfield Farm (GFF) ice cream was made in their farmhouse kitchen using a machine that produced just eight litres per hour. To start with only two flavours were produced, vanilla and chocolate, and these were sold through a small number of local pubs and restaurants. 10

The next major development occurred in 1991 when the farm buildings were converted into a small factory and cold store. The cost was £60 000 and the government assisted with a grant of 25% towards this. GFF's philosophy was to avoid debt so second-hand equipment has always been purchased. The 'used' cold store cost £50 000 to buy and assemble at the farm, compared with £380 000 quoted for a new cold store. Potential production capacity rose to 500 litres per hour, using a batch production system. 15

Although the focus was very much on the quality premium market, sales to the catering trade continued to grow. Will was keen that all products must make a positive contribution to overheads and profits. By the mid 1990s Will had given up farming altogether to become a full time ice cream maker. It was his policy to reinvest profits back into the business. 20

In 1995 GFF employed its first full-time sales manager, Roy Mauditt. He had two aims:

- to develop promotional material;
- to launch GFF products onto the retail market.

In his dealings with customers, Roy was able to gather some simple market research as customers suggested new flavours and product ideas for the business. 25

GFF uses Gantt charts for production scheduling (see Fig. 1). Natural ingredients are used to produce all 14 ice cream flavours, the sorbet range plus various seasonal specials such as the luxury 'Christmas pudding' ice cream. (Last year the company produced and sold 5000 tubs of Christmas Pudding ice cream at £3 each.) Most products are sold in 120 ml, 500 ml, 1 litre and 4 litre tubs. Although the main ingredient, milk, comes from the farm, all other natural products come from a wide range of suppliers: strawberries from Somerset and vanilla from Madagascar, whilst the chocolate button in the lid of every 500 ml pack comes from Belgium. Packaging for the 120 ml tubs sold in shops and theatres comes from an Italian manufacturer. 30

By 2003 production had reached 400 000 litres per year, and sales revenue was £500 000. GFF employs 10 people full time but the number of employees rises to over 40 during the peak summer production times when part-time workers are recruited. 35

GFF'S aim is to increase production and sales by 20% per year. The key to this will be to sell more products through supermarkets (currently Asda and Somerfield stock GFF's products) and key leisure and tourist attractions such as Bristol Zoo and the pier and amusement arcades at local seaside resorts. This means more investment in the business, and a new cold store is planned. The storage temperature is crucial to maintaining the quality of ice cream, as a small rise in temperature quickly leads to the product deteriorating. Food safety and quality are vitally important for manufacturers like GFF. Will needs to be aware of laws concerning the preparation, storage, labelling and selling of food products. He also aims for the highest standards of health and safety in the workplace. 40 45

Roy is keen to diversify and is considering manufacturing a new range of ice lollies containing real fruit to add to GFF's portfolio of products. However, the business would need to purchase a machine that shapes, inserts sticks into and wraps the lollies. Will believes this would mean a major investment with significant cost and operational implications for all areas of the business.

Part of a Gantt Chart for Greenfield Ice Cream

Week beginning 9 May 2005

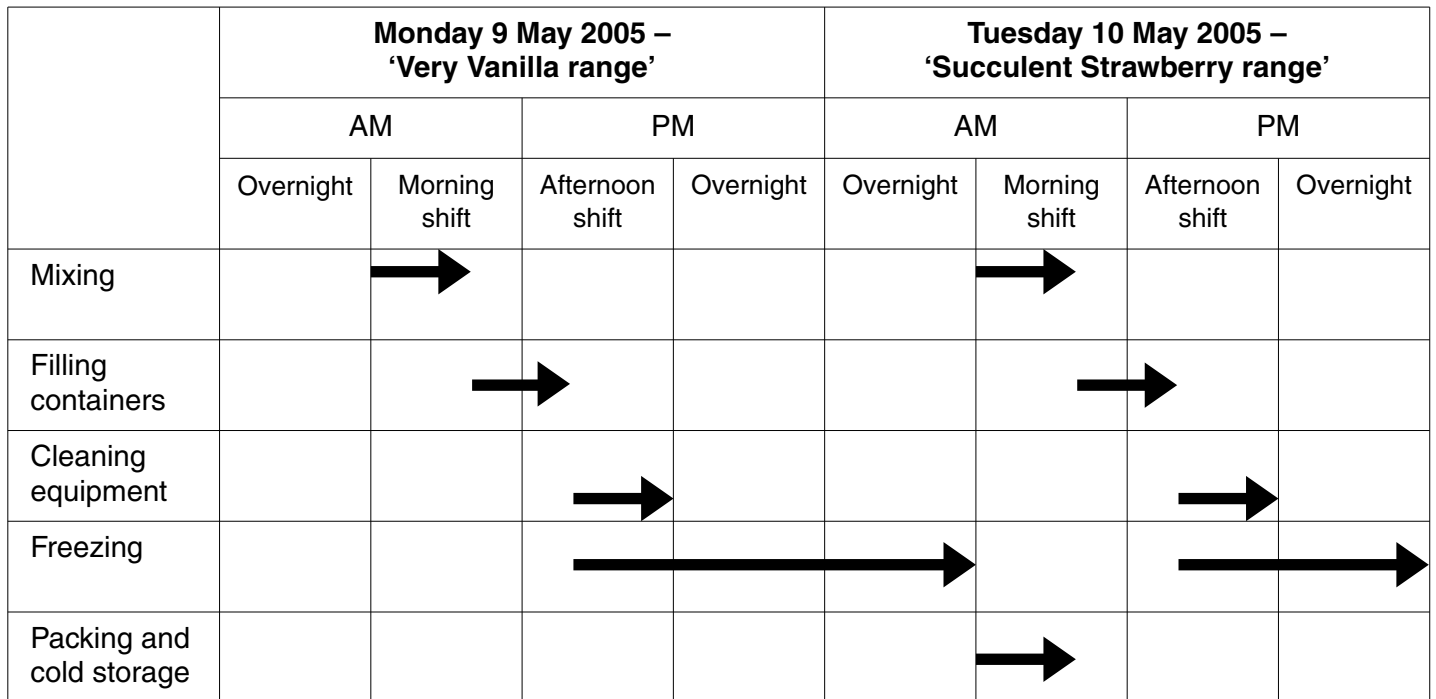


Fig. 1

- 1 (a) The table below shows the cost of Christmas Pudding ice cream made by GFF.

Ingredients	90p per tub
Other (special packaging, labels etc.)	20p per tub
Direct labour	£2500
Special promotional materials	£1000

Refer to the information on lines 28–29.

Calculate the contribution this product made to overheads and profits of the business. [4]

- (b) Evaluate the operational implications for GFF of producing a wide range of products on a small scale. [16]

- (c) Discuss the operational implications to GFF of purchasing its ingredients and other materials from a wide range of UK and overseas suppliers. [16]

- 2 (a) Roy Mauditt is keen to diversify into manufacturing real fruit ice lollies (lines 46–47). Analyse the likely impact on GFF’s operating costs if this proposed investment goes ahead. [6]

- (b) Analyse the benefits to GFF of using Gantt charts to plan its production schedules. [6]

- (c) Discuss how the law might impact on the operations of GFF. [10]

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