

Write your name here	
Surname	Other names
Edexcel Principal Learning	Centre Number
	Candidate Number
Manufacturing and Product Design	
Level 3	
Unit 1: Manufacturing Business Principles	
Thursday 14 January 2010 – Morning	Paper Reference
Time: 1 hour 30 minutes	MP301/01
Calculators may be used.	Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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Answer ALL questions. Write your answers in the space provided.

- 1 State the key business functions which would be responsible for dealing with the following activities.

Activity

Ensuring enough products are made to meet customer orders on time.

Key Business Function

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Activity

Investigating the application of new materials.

Key Business Function

.....

(Total for Question 1 = 2 marks)

- 2 With reference to the number of employees, outline the following terms:

(a) Micro enterprise

(1)

.....

.....

(b) Medium enterprise

(1)

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(c) Large enterprise

(1)

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(Total for Question 2 = 3 marks)



3 A large bakery has its own logistics and distribution department and employs a maintenance team.

(a) Describe **two** main responsibilities of the **logistics** manager.

(4)

1

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2

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(b) In this bakery, the maintenance team is managed by the production manager.
Explain **one** advantage and **one** disadvantage of this structure.

(6)

Advantage

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Disadvantage

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(Total for Question 3 = 10 marks)



4 Explain the responsibilities of the marketing department for a large manufacturing enterprise.

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(Total for Question 4 = 4 marks)

5 One method that manufacturing enterprises use to become more environmentally sustainable is carbon offsetting/trading.

Describe how a manufacturer may apply carbon offsetting techniques.

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(Total for Question 5 = 6 marks)



7 Describe **two** situations where a government may subsidise a manufacturing enterprise.

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2

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(Total for Question 7 = 6 marks)



8 In a manufacturing enterprise, costs are allocated using financial planning techniques.

(a) Explain the term **direct cost** and give an example.

(3)

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(b) Explain the term **fixed cost** and give an example.

(3)

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(Total for Question 8 = 6 marks)



9 Describe the impact on a manufacturing enterprise of:

A shortage of local labour

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Globalisation

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Environmental legislation

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(Total for Question 9 = 9 marks)



12 What is meant by the following terms:

Cash flow

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Residual values

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(Total for Question 12 = 4 marks)

13 Describe **two** ways in which sales projections can influence the planning of a manufacturing enterprise.

1

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2

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(Total for Question 13 = 4 marks)



14 (a) In a full year, a manufacturing enterprise generates total sales of £650 000.
Its costs include:

- £200 000 for materials and wages, 65% of which is wages
- £30 000 for advertising
- £45 000 for utilities
- £75 000 for renting the factory.

In the table below write the missing details in the correct positions.

(4)

PROFIT AND LOSS ACCOUNT			
	£000	£000	£000
Income			
Turnover			
Cost of sales			
Materials			
Wages			
Total			
GROSS PROFIT/LOSS			
Promotions			
Total			
Expenses			
Total			
NET PROFIT/LOSS BEFORE TAX			



(b) Suggest **one** way a manufacturing enterprise could use a profit and loss account to improve its profitability.

(2)

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(Total for Question 14 = 6 marks)



15 The following table shows a cost benefit analysis for developing two products, **A** and **B**.

Product	A	B
Period over which benefits are calculated	24 months	12 months
Costs		
Design and development	£54 600	£28 600
Promotion	£7 500	£3 250
Administration	£12 250	£8 900
Materials	£24 000	£16 500
Facilities	£18 650	£9 250
Evaluation costs	£3 500	£2 750
Public consultation costs	£250	£0
Total costs	£120 740	£69 250
Benefits		
Labour savings	£27 220	£22 340
Productivity increases	£25 350	£22 060
Other cost savings	£31 000	£16 800
Other income generated	£3 200	£2 500
Total benefits	£86 770	£63 700



(a) (i) Calculate the return on investment for each product.

(2)

Show your calculations here

(ii) State which product should be developed

(1)

(b) (i) Calculate the payback method (in months) for each product.

(2)

Show your calculations here

(ii) State which product should be developed

(1)

(Total for Question 15 = 6 marks)

TOTAL FOR PAPER = 90 MARKS



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