



PIABC LEVEL 5 DIPLOMA IN PACKAGING TECHNOLOGY

(Qualification Number: 600/0017/X)

EXAMINATION PAPER

November 2020

L/502/5924 UNIT 03

Packaging Processes

INSTRUCTIONS TO CANDIDATES

You are required to answer and pass **ALL** the questions

Write your answers in the answer book provided

Wherever possible, use diagrams to illustrate your answer

This is a closed book examination

Reading Time: 5 minutes

Examination Time: 3 Hours

INSTRUCTIONS TO CANDIDATES

You are required to answer ALL the questions on this paper

Learning Outcome 1
Understand the packaging design and development process
(This question is worth 20% of the marks for this unit)

Question 1

A major brand owner has suggested there is an opportunity to repackage a ready meal product in a biodegradable tray.

Describe the packaging development process for this product from concept to a successful product established in the market. Highlight key project milestones. (20 marks)

Learning Outcome 2
Understand the main printing and decoration processes used in packaging
(This question is worth 20% of the marks for this unit)

Question 2

- A) Discuss the factors that might change the perceived colour of an object. (5 x 1 mark)
- B) Describe, with the aid of an annotated diagram, the printing of a 2-colour screen printed sheet of corrugated board for use as a point of sale display. Start with the artwork approval and finish with acceptable quality sheets of board ready for despatch to the retailer. (10 marks)
- C) Short run, bespoke printed display boards for point of sale can also be printed by an alternative method. Identify a suitable process and comment on the advantages and disadvantages over screen printing. (5 marks)

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Learning Outcome 3
Understand packaging machinery and packaging line operations
(These two questions are worth 40% of the marks for this unit)

Question 3

- A) Describe a production line for packing sliced cooked meats, from the supply of packaging materials into the store to finished product ready to despatch to the customer. (14 x 1 mark)
- B) A key performance indicator for the packer filler is the overall operating efficiency (OEE). Discuss what OEE is (2 marks) and how it can be improved (4 marks).

Question 4

- A) Gravity, vacuum, or pressure can be used to fill liquids into containers. Describe these filling methods and discuss their relative merits. (3 x 3 marks)
- B) a) Describe the operation of a thermoform fill and seal machine, which is used to produce and pack single serving pots of milk for the catering market. (6 marks)
b) What are the advantages and disadvantages of the above process compared to using bought in preformed pots? (5 x 1 mark)

Learning Outcome 4
Understand how quality systems impact on packaging
(This question is worth 20% of the marks for this unit)

Question 5

- A) Provide a definition of quality (2 marks) and discuss how it is useful for a packaging manufacturer (2 marks).
- B) a) Discuss, using examples, the cost of quality. (8 marks)
b) How does this cost of quality relate to the budget of the quality department? (2 marks)
- C) From a quality perspective, justify SIX items of information you would use in specifying a shelf-ready corrugated case. (6 x 1 mark)

END OF EXAMINATION PAPER