



PIABC LEVEL 5 DIPLOMA IN PACKAGING TECHNOLOGY

(Qualification Number: 600/0017/X)

EXAMINATION PAPER

June 2018

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

PIABC Level 5 Diploma in Packaging Technology
Unit 3 – Packaging Processes
June 2018

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

There are many reasons why packaging designs change. Choose **FIVE** of these reasons; discuss why the change may be required and in each case explain what must be considered. (5 x 4 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) Identify and justify printing processes for the following applications:

- Corrugated case (2 marks)
- Aluminium soft drinks can (2 marks)
- Hemispherical screw on cap for personal care (2 marks)
- A wrapper for a leading brand of chocolate-based snacks (2 marks)
- Paperboard tray for a small bakery to brand their packs (2 marks)

Note to candidates: You are expected to use a different printing process for each of the above.

B) Describe **SIX** common printing defects. (6 x 1 mark)

C) Briefly describe **TWO** methods of transferring ink to a substrate using digital printing techniques. (2 x 2 marks)

PIABC Level 5 Diploma in Packaging Technology
Unit 3 – Packaging Processes
June 2018

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) A large contract wine bottler packs a range of still wine in glass bottles. Describe the packaging process from materials supplied to the packer filler to packed wine ready to despatch to the retailers. (15 marks)
- B) A key performance indicator for the packer filler is the overall equipment efficiency (OEE). Discuss what this is (2 marks) and how it can be improved (3 x 1 mark).

Question 4

- A) Describe **THREE** methods for level filling of liquids into containers and discuss their relative benefits and limitations. (3 x 3 marks)
- B) Describe, with aid of a diagram, the filling and sealing of 50ml hand cream into a flexible plastic printed tube. (6 marks)
- C) Discuss **FIVE** methods to apply variable or lot marking data to packaging and explain the benefits of each. (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 which can be used for developing a quality management system. (2 marks)
- B) Discuss the difference between quality control and quality assurance. (2 marks)
- C) Briefly describe the main elements of a quality management system. (10 x 1 mark)
- D) While Philip Crosby promoted the concept of zero defects, others suggested specifications include acceptable quality levels. Discuss the merits of these alternative philosophies. (6 marks)