



# PIABC LEVEL 3 CERTIFICATE IN PACKAGING

(Qualification Number: 600/0455/1)

## EXAMINATION PAPER

**November 2018**

**R/502/5925 - UNIT A**

### The Fundamental Principles of Packaging

#### **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: 2 Hours

**PIABC Level 3 Certificate in Packaging**  
**Unit A – The Fundamental of Principles of Packaging**  
**November 2018**

YOU ARE REQUIRED TO ANSWER **ALL** THE QUESTIONS ON THIS PAPER

**Learning Outcome 1**  
**Understand the role and functions of packaging**  
(25 marks)

**Question 1**

- A) Using tomato ketchup packed in a glass bottle as your example; describe how the primary pack fulfils the functions of packaging from the packer filler to the end user. (13 marks)
- B) Considering the primary, secondary and tertiary packaging for the packed product above; describe THREE of the main mechanical hazards (3 x 1 mark), how they are caused (3 x 1 mark), and what their effects are (3 x 1 mark). Explain what can be done to mitigate the effects of these hazards in the supply chain. (3 x 1 mark)

**Learning Outcome 2**  
**Understand the major packaging materials and**  
**how they are combined to form packaging components**  
(25 marks)

**Question 2**

- A) Glass, metals and plastics are used to pack instant coffee. For EACH of these materials:
- a) Describe a typical container and closure mechanism, including decoration. (3 x 2 marks)
  - b) Identify the production processes involved to manufacture the container and closure. (3 x 2 marks)
  - c) Explain the functional characteristics of the materials used which make them suitable to pack the product. (3 x 3 marks)
- B) For ONE of the pack types; describe a typical secondary/tertiary packaging solution for this product. (4 marks)

**Learning Outcome 3**  
**Understand the packaging development processes**  
(20 marks)

**Question 3**

- A) Identify SEVEN fundamentally different reasons why a company would change the packaging of an existing product. Use examples for each reason. (7 x 1 mark)
- B) a) Describe the key steps required to develop a packed product from concept to product launch. (10 marks)
- b) List SIX disciplines (e.g. departments/functions) that would be involved in this process. (6 x 1/2 mark)

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**Learning Outcome 4**  
**Understand packaging costs and quality systems**  
(15 marks)

**Question 4**

- A) a) Explain the difference between fixed and variable costs. (2 marks)
- b) In the manufacture of a glass bottle; identify FOUR of the most significant costs faced by the business (4 x ½ mark) and state whether they are fixed or variable (4 x ½ mark).
- B) a) What is the purpose of a specification? (3 marks)
- b) How would you decide on the acceptability of the product? (3 marks)
- c) How does unacceptable quality affect profit? (3 marks)

**Learning Outcome 5**  
**Understand the relationship between packaging and the environment**  
(15 marks)

**Question 5**

The news media has been raising concerns about the impact of single use plastic and its effect on the environment.

- A) Describe THREE ways in which plastic packaging can have a damaging effect on the environment. (6 marks)
- B) Describe THREE ways in which plastic packaging can have a positive contribution on the environment. (6 marks)
- C) Briefly describe how the environmental impact of a change in packaging can be assessed. (3 marks)