



## **PIABC LEVEL 3 CERTIFICATE IN PACKAGING**

(Qualification Number: 600/0455/1)

### **EXAMINATION PAPER**

**June 2022**

**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**  
**June 2022**

**INSTRUCTIONS TO CANDIDATES**

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) An over-the-counter dissolvable pain relief tablet is packed in a plastic blister pack and sealed with foil. Two blister packs and an information leaflet are packed into a printed folding box board carton.

Discuss how this pack performs the functions of packaging. (11 marks)

- B) A 2kg box of laundry detergent powder is manufactured from folding box board. The boxes are collated in 6's into a corrugated case, which is then palletised and stretch wrapped.

State FOUR hazards that this product may face in the supply chain from the manufacturer to the final consumer (4 x ½ mark), what effect could these have on the product or pack (4 x 1 mark) and how can the manufacturer mitigate these hazards (4 x 2 marks).

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

**Question 2**

- A) Ultra-High Temperature (UHT) treated milk can be packed in either a multi-layer rigid plastic bottle or a laminated paperboard container such as a Tetrapak.

a) Briefly describe each of the two containers and how they could be decorated. (2 x 3 marks)

b) Explain how the different layers within the packs contribute to the properties of the pack for the UHT milk. (2 x 4 marks)

c) Describe how each of the packs are sealed. (2 x 2 marks)

- B) For ONE of the pack types, describe a typical secondary and tertiary packaging solution for this product. (7 marks)

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**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 ½ mark)

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

**Question 4**

- A) Explain the difference between fixed and variable costs. (2 marks)
- B) In the manufacture of plastic containers, identify FOUR of the most important costs and explain whether they are fixed or variable. (4 marks)
- C) Discuss SIX factors you need to consider when ordering packaging components to optimise order quantities. (6 x 1 mark)
- D) How does unacceptable quality affect profit? (3 marks)

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

**Question 5**

- A) Identify and describe FOUR ways in which plastic packaging can have a positive environmental contribution. (4 x 1 mark)
- B) Identify and describe FOUR ways in which plastic packaging can have a negative effect on the environment. (4 x 1 mark)
- C) Briefly describe THREE end-of-life options that are available to deal with empty corrugated boxes. (3 x 2 marks)
- D) Identify and briefly discuss ONE way of evaluating the environmental impact of a packaging material. (1 mark)

**END OF EXAMINATION PAPER**