



PIABC LEVEL 5 DIPLOMA IN PACKAGING TECHNOLOGY

(Qualification Number: 600/0017/X)

EXAMINATION PAPER

November 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
November 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

- A) A packaging design brief can be used to provide the information required prior to developing a pack. Briefly discuss the information which should be included in such a design brief. (10 marks)
- B) Discuss why good project management is important in the packaging development process. (6 x 1 mark)
- C) Discuss how packaging design can make counterfeiting packs more difficult and identification of counterfeit packs easier. (4 x 1 mark)

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) Define and explain the following printing terms:
 - a) Hue (1 mark)
 - b) Brightness (1 mark)
 - c) Saturation (1 mark)
- B) Describe, with the aid of diagrams, the gravure print process explaining:
 - a) the construction and manufacture of the printing cylinders and the TWO main methods of engraving. (4 mark)
 - b) the type and composition of ink used. (2 marks)
 - c) the printing and finishing process itself to create a reel of film for despatch to the packer. (6 marks)
- C) Identify FIVE advantages (5 x ½ mark) and FIVE disadvantages (5 x ½ mark) of the gravure print process.

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 the packing operation for packaging six individual apple pies (pre-baked in single aluminium trays) from receipt of packaging components to product ready for despatch to customer. (14 x 1 mark)
- B) Outline how accumulators can improve the efficiency of a filling line. (3 marks)
- C) Discuss the relative merits of shrink and stretch film to stabilizing pallet loads. (3 x 1 mark)

Question 4

Frozen prawns are automatically packed into film based 1kg bags.

- A) Describe how the correct amount of product can be metered. (6 x 1 mark)
- B) The frozen prawns are filled on a vertical form fill seal bagging machine. Describe the operation of this equipment and any specific considerations required for this product. (10 x 1 mark)
- C) a) Describe the factors to be considered to ensure a good heat seal. (2 x 1 mark)
b) How can this seal be assessed? (2 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) Describe the role of a Quality Management System (2 marks) and identify FOUR key principles of such a system (4 x 1 mark).
- B) What are the purposes of a specification and why are they important? (4 marks)
- C) Identify and briefly describe the technical information you would expect to see on a purchasing specification for a printed reel of film intended for direct food contact. (7 marks)
- D) How would you decide on the acceptability of the deliveries? (3 marks)