



PIABC LEVEL 5 DIPLOMA IN PACKAGING TECHNOLOGY

(Qualification Number: 600/0017/X)

EXAMINATION PAPER

November 2019

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) Describe the stages of the design and development process to launch single portion, snacking, bars of cheese from initial concept to launch. (9 marks)
- B) Identify and describe the roles of SIX associated disciplines involved in the process. (6 x 1 mark)
- C) Identify, and briefly explain, FIVE different tests that could be used to show the compatibility of the cheese and packaging through life. (5 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:
- Hue (1 mark)
 - Brightness (1 mark)
 - Saturation (1 mark)
- B) Explain how printing processes use the process colours, CMYK, to produce photographic images. (5 marks)
- C) Describe, with aid of diagram, the offset lithographic printing process for a 3-colour and varnished carton. (12 marks)

PIABC Level 5 Diploma in Packaging Technology
Unit 3 – Packaging Processes
November 2019

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) Pain relief tablets for retail are packed in a blister pack with a leaflet and carton. Describe a packaging operation for this product from bulk tablets to packed product ready for despatch to major retailer's distribution hub. (16 x 1 mark)
- B) Discuss the benefits and risks with Just In Time (JIT) manufacturing philosophy. (4 x 1 mark)

Question 4

- A) Describe how weight based filling systems can be used to meter products. (3 marks) What types of products is this technology suitable for? (2 marks)
- B) Evaluate the advantages and disadvantages of pre-formed trays with tray sealer compared with trays manufactured in thermoform fill seal equipment. (5 marks)
- C) Discuss FIVE methods of adding variable data to product packaging. (5 marks)
- D) Evaluate the relative merits of stretch and shrink wrapping for stabilising pallets loads of unitised products. (5 marks)

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

Question 5

- A) Define Quality Control and Quality Assurance and explain the difference between the two. (4 marks)
- B) Explain the difference between critical, major and minor defects. Using a glass bottle as an example; identify two of each type of defect. (3 x 2 marks)
- C) Discuss the purpose of a packaging specification. (7 marks)
- D) Explain what a tolerance is and why it is important to set appropriate tolerances for a packaging component. (3 marks)