



PIABC LEVEL 5 DIPLOMA IN PACKAGING TECHNOLOGY
(Qualification No. 610/0740/7)

SAMPLE EXAMINATION PAPER

L/650/2135 UNIT 3

**UNDERSTAND THE MANAGEMENT OF
PACKAGING, PRODUCTION AND BUSINESS PROCESSES**

INSTRUCTIONS TO CANDIDATES

Write your answers in the answer book provided.

Wherever possible, use diagrams to illustrate your answer.

This is a closed book examination.

100 marks are available in total for this examination.

The number of marks is given in brackets () at the end of each question or part question.

Leave time at the end to check your answers.

Examination Time: 2 Hours

Issued under the authority of the
PACKAGING ASSESSMENT BOARD
14 September 2023

SECTION 1

TWO QUESTIONS - 20 MARKS EACH

Question 1

- 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. (14 marks)
- B) Discuss the benefits and risks with a Just in Time (JIT) manufacturing philosophy (6 marks)

Question 2

- A) Define and discuss what is meant by quality in a quality management system. (3 marks)
- B) Explain the purpose of a specification for incoming goods. (6 marks)
- C) Describe what tolerance is on a measurement (1 mark) and explain why it is important to set correct tolerance levels (2 x 2 marks).
- D) Explain what is meant by the term Acceptable Quality Levels (AQL's). (6 marks)

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SECTION 2

SIX QUESTIONS - 10 MARKS EACH

Question 3

A packaging design brief can be used to provide the information required prior to developing a pack.

Using examples, discuss the information which should be included in such a design brief.
(10 marks)

Question 4

Discuss the factors that need to be considered in determining optimum stock holding levels.
(10 marks)

Question 5

- A) What is the design speed of a packaging machine and how can it be measured?
(2 mark)
- B) Outline how accumulators can improve the efficiency of a filling line. (2 marks)
- C) Discuss the factors which contribute to this line's overall equipment effectiveness (OEE) and for each factor provide an example how the OEE could be improved.
(6 marks)

Question 6

- A) Describe with examples, SIX factors which contribute to the total packed cost of a product from raw materials to finished goods. (6 marks)
- B) Briefly discuss how improving product quality can improve the company's profitability.
(4 marks)

Question 7

- A) Evaluate the advantages and disadvantages of pre-formed polymeric trays with a tray sealer compared with trays manufactured using thermoform fill seal equipment.
(5 marks)
- B) Discuss the relative merits of stretch and shrink wrapping for stabilising pallet loads of unitised products. (5 marks)

Question 8

- A) Identify and describe the roles and responsibilities of FIVE associated disciplines involved in the packaging development process. (5 marks)
- B) Identify, and briefly explain, FIVE different tests that could be used to show the compatibility of a short shelf-life food product and packaging through its life. (5 marks)

END OF EXAMINATION PAPER