



# **LEVEL 5 DIPLOMA IN PACKAGING TECHNOLOGY (QCF)**

(Qualification Accreditation Number: 600/0017/X)

## **EXAMINATION PAPER**

**November 2016**

**L/502/5924 UNIT 03**

**Packaging Processes**

Reading Time: 5 minutes

Time Allowed: 3 Hours

You are required to answer and pass ALL the learning outcomes

Write your answers in the answer book provided

Wherever possible, use diagrams to illustrate your answer

This is a closed book examination

Issued under the authority of the  
**PACKAGING ASSESSMENT BOARD**  
31 October 2016

**Level 5 Diploma in Packaging Technology (QCF)**  
**Unit 3 – Packaging Processes**  
**November 2016**

**Learning Outcome 1**  
**Understand the packaging design and development process**  
(This question is worth 20% of the marks for this unit)

**Question 1**

A major brand owner has suggested there is an opportunity for a space travel inspired soft drink. Describe the packaging development process for this product from concept to a successful product established in the market. (Assume the process will require a new PET bottle shape). Highlight key project milestones. (20 marks)

**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) a) Identify the 3 additive primary ( $\frac{1}{2}$  mark) and the 3 subtractive primary colours ( $\frac{1}{2}$  mark).  
b) How does their use provide the basis for all graphic printing? (2 marks)
- B) When specifying and checking colour printing of packaging; what are the key elements and factors to consider? (4 x 1 mark)
- C) a) With aid of a diagram; briefly describe the flexographic print process for a 4-colour flexible HDPE film for packing frozen food. (7 marks)  
b) What are THREE advantages/disadvantages of flexographic (3 x 1 mark) and gravure (3 x 1 mark) printing for the above film?

**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 filling line for a plastic bottle of tablets with a child resistance closure and carton from receipt of packaging components to collated product ready for despatch to customer. (14 marks)
- B) Describe how accumulators can improve the efficiency of a filling line. (3 marks)
- C) Discuss the elements which contribute to overall equipment effectiveness. (3 x 1 mark)

**Level 5 Diploma in Packaging Technology (QCF)**  
**Unit 3 – Packaging Processes**  
**November 2016**

**Question 4**

- A) Discuss how the correct weight of individually frozen prawns could be metered. (5 marks)
- B) Describe TWO methods of metering the correct volume of olive oil into a glass bottle.  
(2 x 4 marks)
- C) Compare the use of fixed weight and variable weight approaches to retailing pre-packed meat products. (4 x 1 mark)
- D) Discuss THREE methods used to apply variable or lot marking data to a carton board case.  
(3 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) 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 reasons why a packaging specification is agreed between a buyer and seller.  
(7 marks)
- D) Explain why it is important to set correct tolerance levels. (3 marks)