



SUMMER EXAMINATIONS 2024

EXAMINATION: **UNIT 1 Fundamentals of Packaging Technology and Packaging in the Supply Chain**

COURSE: **CPD Diploma in Packaging Technology**

DATE: **9th May 2024**
10am to 12pm

EXAMINERS: **David Little, Anne Morrissey**

TIME ALLOWED: **2 hours**

INSTRUCTIONS: **Please answer four questions. All questions carry equal marks**

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The use of programmable or text storing calculators, smart phones etc are expressly forbidden.
Please note that where a candidate answers more than the required number of questions, the examiner will mark all questions attempted and then select the highest scoring ones.

Question 1 (25 marks)

- a) Compare and contrast the difference in the supply chain hazards experienced if one is distributing fast moving consumer goods (FMCG) product to a warehouse, compared to the delivery of an on-line order of one item to someone's home.

(10 marks)

- b) The Hazards of Distribution can have a major effect on packaging and product damage. Discuss five of the general impacts, experienced by packaging in the Supply Chain giving examples to illustrate your answer.

(15 marks)

Question 2 (25 marks)

- a) Discuss the functions of packaging and why they are important for new product pack development.

(10 marks)

- b) Describe the typical packaging and component layers used in a carton for liquid custard. Discuss how these layers / components perform the functions of packaging.

(15 marks)

Question 3 (25 marks)

- a) Briefly discuss what you understand by the term "Carbon Footprint" and the reasons why you would consider it in the context of importing or locally sourcing goods.

(10 marks)

- b) Discuss what you understand as an environmentally responsible pack and using examples, discuss what you should consider in designing such a pack.

(15 marks)

Question 4 (25 marks)

- a) Describe the measures that can be taken to increase the stability of a pallet of product filled bags or flat outers or filled outer cases.

(10 marks)

- b) Discuss the important factors that must be considered in the storage, loading and handling of palletised goods a warehouse.

(15 marks)

Question 5 (25 marks)

- c) Describe the various methods of preserving cooked foods produced industrially. Pick one method and describe and illustrate the process in more detail.

(15 marks)

- d) Identify and briefly describe FIVE abiotic mechanisms for product spoilage. Discuss how the effect of these spoilage mechanisms can be reduced with packaging.

(10 marks)