



**The Irish**  
**PACKAGING SOCIETY**

Affiliated  
with **I.M3**

### **SUMMER EXAMINATIONS 2024**

**EXAMINATION:** UNIT 4 Package Printing and Decorating & Packaging Machinery

**COURSE:** CPD Diploma in Packaging Technology

**DATE:** 10<sup>th</sup> May 2024

2pm to 4 pm

**EXAMINERS:** David Little, Tony Duffy

**TIME ALLOWED:** 2 hours

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

**PLEASE DO NOT TURN OVER THIS PAGE UNTIL YOU ARE INSTRUCTED TO DO SO**

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) Explain the following terms used in colour printing :

- Dot Gain
- Special Colour
- Density
- L\*a\*b\*
- Colour Separation

**(10 marks)**

b) Compare and contrast the Lithographic printing plate with the gravure printing cylinder and discuss the difference of each process on print quality, substrate, run length and ink type. Use sketches and examples to illustrate your answer.

**(15 marks)**

### **Question 2 (25 marks)**

a) What are the fundamental design messages used to sell a branded packaged product.

**(10 Marks)**

b) Briefly explain five (5) of following terms giving an example to illustrate your answer:

- Demographics
- Psychographics
- ABC1
- Brand Equity
- Typography
- Brand Management

**(5 X 3 marks)**

### **Question 3 (25 marks)**

a) Describe how 750g of granola can be measured out for high-speed product filling line.

**(10 marks)**

b) The pack for this product can be produced at the point of filling in either a standup pouch or a vertical form fill seal operation. Explain both of these processes.

**(15 marks)**

#### **Question 4 (25 marks)**

- a) Describe the packing line for packaging individually wrapped cereal bars in a collation carton of six bars, from receipt of packaging materials to finished packed products ready for dispatch.

**(15 marks)**

- b) Discuss the factors which contribute to overall equipment effectiveness of the line and provide an example how each could be improved.

**(10 marks)**

#### **Question 5 (25 marks)**

- a) Describe the role of Flexo printing in the Packaging Industry and discuss why there has been such improvements in Flexo over the last number of years, giving examples to illustrate your answer.

**(15 marks)**

- b) Discuss the breakeven point between Digital and Analogue print runs and explain which Printing process you would use to print a full colour carton. Would you use Litho or Digital for the following runs giving reasons to explain your choice:

- 500 run.
- 5,000 run.
- 10,000 run with 5 sorts.

**(10 marks)**