Chartered Institute of Brewers and Distillers

Diploma in Packaging
Module 2 Syllabus

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1	Diploma in Packaging Module 2 Syllabus	Syllabus Portfolio Manager	Chair of Board of Examiners	10/06/2025

UNIT 1: QUALITY MANAGEMENT

Candidates are required to have an in-depth understanding of the following:

Quality Assurance and Quality Management

1. Contrast different definitions of quality and apply these to packaged product.
2. Compare and contrast approaches to quality control and quality assurance.
3. Explain the components of the quality management system.

Food Safety

1. Implement a food-safety management system.
2. Demonstrate knowledge of how to apply HACCP.
3. Compare food integrity management tools TACCP and VACCP.

Laboratory and At-Line Analysis

1. Compare laboratory methods for measuring the key attributes of packaged products.
2. Utilise simple statistical methods to interpret analytical data.
3. Develop specifications based on process and analytical variables.
4. Demonstrate an understanding of laboratory accreditation and proficiency schemes.

Statistical Process Control

1. Use control charts and in-line control technology to manage the packaging process.
2. Interpret statistical process control charts.
3. Identify normal and special causes of variation.
4. Construct simple control charts.

UNIT 2: HYGIENE

Candidates are required to have an in-depth understanding of the following:

Cleaning Systems and Control

1. Explain the concept and operational principles of hygienic packaging plants.
2. Recognise the nature, purpose, function, and application of detergents and sanitisers.
3. Understand the overview of design and operational principles of Cleaning-in-Place (CIP) systems.
4. Summarise the measurement of cleaning effectiveness.

Types of Microorganisms

1. Explain the concept and operational principles of hygienic packaging plants.
2. Recognise the nature, purpose, function, and application of detergents and sanitisers.
3. Understand the overview of design and operational principles of Cleaning-in-Place (CIP) systems.
4. Summarise the measurement of cleaning effectiveness.

Microorganism Detection and Control

1. Demonstrate knowledge of aseptic sampling techniques.
2. Select the appropriate method to detect and identify beer and cider spoilage microorganisms.
3. Describe rapid detection and identification techniques for beer and cider spoilage organisms.

UNIT 3: PLANNING AND LINE DESIGN

Candidates are required to have an in-depth understanding of the following:

Capacity Planning

1. Explain the concept of capacity.
2. Examine the relationship between capacity and business strategy.
3. Demonstrate an understanding of how demand and capacity are forecast.
4. Contrast strategic and tactical planning.
5. Compare qualitative and quantitative demand forecasting.

Operational Planning

1. Explain how operations are planned to meet forecast requirements.
2. Describe the function and operation of a master production schedule.
3. Compare MRP, MRPII and ERP systems.
4. Discuss the internal and external factors influencing planning.

Line Design

1. Use a V graph to determine component capacities for a packaging line.
2. Compare various types of line layout.
3. Explain the concept of line balance and the use of accumulation.
4. Describe the constraints of packaging line design.
5. Differentiate the main conveyor types used in packaging.

UNIT 4: LARGE PACK OPERATIONS

Candidates are required to have an in-depth understanding of the following:

Fundamental Considerations of Large Pack Operations

1. Demonstrate a sound understanding of cask, keg and spear design and construction.
2. Explain the importance of large pack beer and cider.
3. Sketch different large pack line layouts.
4. Describe how large pack lines are controlled.

Pre-filling Operations

1. Describe the processes and equipment used to remove large pack containers from pallets.
2. Discuss how large pack containers are inspected and cleaned externally.
3. Explain the checks undertaken on a large pack container before filling.
4. Describe the uses and functions of robots on a large pack line.

Theory and Practice of Keg and Cask Filling

1. Use a V graph to determine component capacities for a packaging line.
2. Compare various types of line layout.
3. Explain the concept of line balance and the use of accumulation.
4. Describe the constraints of packaging line design.
5. Differentiate the main conveyor types used in packaging.

Post-filling Operations

1. List the purposes of labelling, coding, and capping and describe the process of each.
2. Detail how container contents are checked and validated.
3. Explain the processes used to validate labels and capping and check containers for damage or leaks.
4. Explain the need to track large pack containers and the technology used.
5. Discuss the requirements and activities of warehousing and stock control.

Draught Dispense

1. Describe the design and operation of large pack dispense equipment.
2. Demonstrate the correct standard of equipment and cleaning required for hygienic dispense.
3. Explain the use of gases and temperature control in the dispense operation

UNIT 5: OPERATIONS MANAGEMENT

Candidates are required to have an in-depth understanding of the following:

Line Operations

1. Discuss the impact of structure, culture, and roles on the operation of a packaging facility.
2. Describe how people are managed in a packaging facility.
3. Explain the impact of maintenance on a packaging line.
4. Describe how packaging line performance is measured.
5. Discuss how packaging line efficiency is measured and calculated.

Supply Chain and Procurement

1. Describe the supply chain and identify its interdependencies.
2. Discuss how organisations can manage their supply chain to create value.
3. Describe the activities of procurement in organisations.
4. Discuss how relationships between suppliers and customers are managed.

Finance

1. Describe the accounting practices relating to packaging organisations.
2. Explain the concept of depreciation.
3. Differentiate between fixed and variable costs and between controllable and uncontrollable costs.
4. Discuss budgeting and variance for packaging facility financials.
5. Compare and contrast budgeting methods.

Project Management

1. Explain the process of project management in packaging.
2. Detail the roles of the key stakeholders in the project management process.
3. Discuss how the projects are justified to a business.
4. Explain how the constraints of a project are balanced and controlled.
5. Describe how the process of a project is monitored.
6. Detail how project costs are managed and controlled.

World Class Manufacturing (WCM)

1. Explain how workplace culture and environment can drive world-class performance.
2. Demonstrate an understanding of world-class operating standards.
3. Execute techniques for continuous improvement and problem solving.
4. Explain the principles and tools of Lean manufacturing.