PIABC LEVEL 5 AWARD IN ROLE AND FUNCTIONS OF PACKAGING

Qualification Number: 610/1596/9

Qualification Specification

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INTRODUCTION

PIABC Level 5 Award in Role and Functions of Packaging (QN: 610/1596/9) is a nationally recognised packaging qualification.

Success in this qualification prepares students for progression in the packaging industry to a position where they can assume responsibility for packaging in a company at any point in the supply chain.

GENERAL OUTCOMES

The general objectives of the PIABC Level 5 Award in Role and Functions of Packaging (QN: 610/1596/9) are to:

1. Provide those employed, or who wish to be employed in the packaging and related industries with the skills, knowledge and understanding to underpin and enhance job experience.
2. Provide learners with a portable qualification to enable job movement throughout the industry.
3. Provide learners with a means of progression to higher level qualifications, e.g. MSc, MBA.
4. Provide employers throughout the packaging and related industries with a firm basis for judging suitability of candidates.
5. Raise the status of those employed in the packaging and related industries.

TARGET GROUP

This Level 5 qualification is appropriate for those wanting to enhance their employment and progression opportunities in the packaging and related industries.

There are thus two broad target groups:

1. People currently employed in parts of the industry who want to broaden their knowledge and understanding and take on greater levels of responsibility. Due to the diverse nature of the packaging and related industries, it is difficult to define this target group in terms of precise job functions.

2. People who are not currently employed in the industry, who may be following courses in associate subject areas such as packaging design, food science/technology, materials science/engineering, and logistics, will find that this programme broadens the scope of their studies.

ENTRY REQUIREMENTS

As a guide for entry onto programmes, candidates will normally be expected to have a minimum attainment of:

- 1 GCE A level and 5 GCSEs at grade A – C, including one science subject, plus the key skills of numeracy, communication and information technology.
- PIABC Level 3 Certificate in Packaging.

Alternatively, candidates should be able to clearly demonstrate, for example through experience in the packaging industry, which they are likely to succeed in the programme of study.

For candidates where English is not the candidate's first language, PIABC requests that a candidate provides evidence of their command of English before commencing the PIABC Level 5 Diploma in Packaging Technology (QN: 610/0740/7). PIABC's experience has shown that Learners who are fully proficient in English are best placed to successfully complete their programme.

The most common qualification is the IELTS test. Other tests may be acceptable if a candidate has already taken them. Please note that test scores must be achieved from one sitting of the relevant qualification. PIABC will not accept individual component scores from multiple tests.

The following qualifications are acceptable to show PIABC's minimum English language requirements:

- GCSE English Language/IGCSE (first language): Grade C minimum
- International English Language Testing System (IELTS) Academic module (not General Training): overall score 6.0; no sub-test less than 5.5
- ibTOEFL: 92; no sub-test less than 20
- CAE (Cambridge Certificate of Advanced English): C minimum
- CPE (Cambridge Certificate of Proficiency in English): C minimum
- PTE Academic (Person Test of English, Academic test): 55; no sub-test less than 51

For English Language qualifications not listed here, then please email details of the qualification to PIABC (piabc@iom3.org) for approval.

PROGRESSION

Success in this qualification prepares students for progression in the packaging industry to a position where they can assume responsibility for packaging in a company at any point in the supply chain.

STAFFING

It is expected that staff involved with the delivery of the course will be appropriately qualified and/or experienced in packaging. The PIABC approval process requires prospective centres to provide details of the staff involved in delivery and assessment including their qualifications and relevant training/employment experience, plus staff development arrangements. Whilst these details are passed on to the external moderator appointed by PIABC, it is the centre's responsibility to ensure tutors' qualifications are both bona fide and appropriate to the level of the qualification.

QUALITY ASSURANCE

PIABC requires that each centre has a quality assurance and enhancement procedure in respect of the programme, and a means of monitoring its implementation.

There should be a team that is responsible for preparing an annual self-assessment of the programme and for monitoring the improvement measures resulting from this.

This self-assessment process should use evidence from different sources including:

- Candidate self-evaluation
- The views of external individuals and organisations, for example those companies sending learners
- Staff working on the qualification

In addition, it is also expected that there will be an internal moderation procedure to ensure standardisation of unit delivery. This will include the following elements:

- Classroom observation
- Peer review of award materials
- Moderation of any internally assessed elements

There should be a named and appropriately qualified individual (Centre co-ordinator) who has the necessary authority, with whom the awarding body can liaise directly on all matters of management, administration, and quality assurance.

EXTERNAL MODERATION

PIABC will appoint external centre monitors to undertake external quality assurance activities with the centres in order to ensure the maintenance of standards of quality.

PROGRAMME ORGANISATION

It is anticipated that the qualification will require a minimum of 28 guided learning hours for satisfactory completion.

The organisation of the qualification is at the discretion of the centre and will consider the aims, aspirations, and experience of the candidates. Centres are encouraged to choose the most suitable curriculum model for their candidates.

Centres must ensure that adequate arrangements are in place for supporting candidates. This could be either through separate tutorial sessions or through the use of time within structured study sessions. Centres using on-line or other forms of open learning must ensure that appropriate tutorial support is provided for candidates.

In relevant circumstances, centres are recommended to provide information and guidance to their candidates on the availability and type of employment the programme may lead to and on the progression routes available for further education and training in packaging.

GUIDANCE ON LEARNING AND TEACHING STRATEGY, METHODS AND ASSESSMENT

Packaging technology is a practical subject, based on theoretical principles. As far as possible, it is important that the course is taught by relating the underlying theory to practical examples and applications. Two factors which will help in this regard are:

1. The use of lecturers with direct experience in the packaging and related industries.

2. Factory visits should be undertaken, to packaging manufacturers and users where learners can see packaging processes and make the link between theoretical principles and practical applications. Familiarity with different packaging settings will be assumed in elements of the qualification's assessment. DVD illustrations of processes should also be used as part of the teaching regime. A further and invaluable source of information is the Internet and there are many web sites which demonstrate important aspects of packaging manufacture and use. Lecturers should be encouraged to use this material, always making sure due acknowledgment is given to the source.

Those learners employed in the packaging and related industries, will come to the course with varying levels of existing knowledge and/or practical experience of some parts of the syllabus. Lecturers should utilise this, through group work and other structured interactive activities, thus encouraging the sharing of knowledge which has the potential to lead to a high level of understanding.

The relation of theory and practice is a theme that will be reflected in the assessments for each unit and for the programme as a whole. Therefore, in structured learning and individual work, candidates should be aware of the requirement to develop a practical dimension to their understanding.

REASONABLE ADJUSTMENTS

Please refer to "*Access to Assessment – Arrangements for Candidates Needing Reasonable Adjustments, Special Consideration and/or Extenuating Circumstances in the Assessment Process*" document for more information. A copy is available from the PIABC team at piabc@iom3.org.

In carrying out assessments, PIABC's policy is to give all candidates equal opportunity to demonstrate attainment and to provide candidates with disabilities, learning difficulties and other problems the same access to assessment as other candidates.

Assessment arrangements maybe varied however, where the standards permit, for candidates with particular requirements. These requirements may take the form of special condition/extenuating circumstances for candidates whose needs are covered by the Equality Act 2010 or extenuating circumstances for those whose needs result from temporary disability or indisposition such as short-term illness.

In general, variation in assessment arrangements may be needed for physical disability, visual impairment, hearing impairment, specific learning difficulty, medical conditions, and use of English as a second language.

The nature of any special arrangements depends largely upon the qualification being followed and the assessment strategy employed. For scheduled fixed date examinations, then arrangements must be agreed directly with PIABC. For assessments at Level 3 and above, centres must write to PIABC to request concessions at least two months before the assessment. Concessions will be limited by specification and assessment requirements and supporting evidence will be required.

QUALIFICATION LEVEL

PIABC Level 5 Award in Role and Functions of Packaging (QN: 610/1596/9) is a Level 5 qualification.

Level 5 Descriptor

Knowledge descriptor (the holder…)

- Can analyse, interpret and evaluate relevant information, concepts and ideas.
- Is aware of the nature and scope of the area of study or work.
- Understands different perspectives, approaches or schools of thought and the reasoning behind them

Skills descriptor (the holder can…)

- Determine, adapt and use appropriate methods, cognitive and practical skills to address broadly defined, complex problems.
- Use relevant research or development to inform actions.
  Evaluate actions, methods and results.

Source: Ofqual Handbook: General Conditions of Recognition (Updated 12/05/2022)

QUALIFICATION STRUCTURE

In designing the diploma, the unit design that each unit has an informative title, a level, a credit value, learning outcomes and assessment criteria have been applied. The assessment process is based on those learning outcomes and assessment criteria. The learning and teaching strategy must be designed so that candidates have the opportunity to meet the learning outcomes in an effective manner by demonstrating that they can achieve the assessment criteria.

The PIABC Level 5 Award in Role and Functions of Packaging (QN: 610/1596/9) has one mandatory unit:

- Unit 1 - Understand the role and functions of packaging

UNIT CONTENT

UNIT 1 - UNDERSTAND THE ROLE AND FUNCTIONS OF PACKAGING

Ofqual Unit No: J/650/2133
Unit Level: 5
Grading Structure: Pass, Merit and Distinction

Guided Learning Hours: 28
Unit Credits: 14

Learning Outcomes: what you need to know/understand		**Assessment Criteria:** what you need to do		**Indicative Content**
1.0	Understand the role, functions, and impact of packaging in the world today	1.1	Discuss the role of packaging throughout the supply chain and its interactions with society	• Definition of packaging including the levels of packaging. • The development of packaging related to developments in society – changing patterns of consumption and their impact on packaging and the growth of the modern retailer (e.g. supermarkets, e-commerce) • Overview of the packaging market (i.e., consumer, business to business). • Factor effecting packaging use (i.e., lifestyle, legislation, business changes, etc.).
		1.2	Identify and discuss the functions of packaging	• Functions of packaging: contain, protect, preserve, convenience, providing information and selling. Also consider environmental and commercial issues.
		1.3	Evaluate the ability of packs to meet the functions of packaging	• Major functions that packaging is required to fulfil and the ability to evaluate each function for a given use/application. • Using a range of examples, show how particular packs meet different packaging functions

Learning Outcomes: what you need to know/understand		**Assessment Criteria:** what you need to do		**Indicative Content**
2.0	Understand the structure and interactions of elements in the packaging supply chain from raw materials to end use and disposal	2.1	Describe in detail the whole packaging supply chain (from raw materials to end of use and disposal) for a given packed product	• Knowledge of the structure of the packaging supply chain from raw material to packer filler • Knowledge of the structure of the packaging supply chain from packer filler to end of use and disposal (including chilled and frozen goods, business to business and e-commerce packaging). • Understand the complexity of the journey map for multiple handling and extended distribution systems taking account of packaging manufacturing processes and the storage and distribution of packaging materials and components. • Identify the main hazards in the supply chain • Packaging as a means of delivering cost effective convenient solutions for moving goods from production to the final user
		2.2	Evaluate the role of packaging in mitigating the effects of hazards faced by packed products in the supply chain	• Describe the factors which cause product and packaging deterioration in the supply chain • Measuring and monitoring the main hazards, their causes and effects which may compromise the quality, hygiene, safety, and legality of the packed product • Defining product fragility and damage levels, e.g. breakage, scratching, scuffing, of both product and pack. Quantifying fragility and acceptable damage levels • Key properties of packaging (high level overview only) and the controls needed to minimise product damage and interference. • Simulating journey hazards in the laboratory and carrying out tests and transit trials.

Learning Outcomes: what you need to know/understand		**Assessment Criteria:** what you need to do		**Indicative Content**
3.0	Understand how active and intelligent packaging technologies can enhance traditional packaging methodologies	3.1	Discuss how active and intelligent technologies are being developed to reduce product wastage and extend shelf life	• Define active and intelligent packaging • An overview of: • Emitters, absorbers (e.g. oxygen, ethylene) • Nanotechnology (clay platelets, silver components for antimicrobial, etc.) • Advantages & disadvantages of the technologies

		3.2	Discuss how active and intelligent technologies are being developed to provide convenience	• An overview of:
				  • Self-heating and self-cooling
				  • Microwavable packaging
				  • Widget
				  • Temperature controlled packaging
				  • Resealable films
				• Advantages & disadvantages of the technologies

		3.3	Discuss how active and intelligent technologies are being developed to interact and communicate with elements and users within the supply chain	• An overview of:
				  • Time-Temperature indicators
				  • Auto replenish
				  • Condition monitoring (e.g. shock watch, ripeness indicators)
				  • Temperature indication (e.g. thermochromic inks)
				• Advantages & disadvantages of the technologies

		3.4	Discuss how active and intelligent technologies are being developed to provide security in the supply chain	• An overview of:
				  • Traceability including Radio-frequency identification (*RFID*), QR codes, barcoding
				  • Anti-Counterfeit measures/detection for anticounterfeit (e.g. consumer, in field, expert)
				  • Covert & overt
				• Advantages & disadvantages of the technologies

Learning Outcomes: what you need to know/understand		**Assessment Criteria:** what you need to do		**Indicative Content**

4.0	Understand how packaging complies with regulatory practices	4.1	Explain how legislation and standards impact on packaging and the packaging industry	• Principles and drivers of the key legislation and standards (globally) which applies to the packed product
				• Differences between legislation, standards, and good practice
				• Categories of legislation
				  • Product quality and health hazards (e.g. food safety act, materials, and articles in contact with product, product labelling requirements, dangerous goods, tamper evidence and child resistant packaging)
				  • Worker protection (e.g. health and safety, manual handling, noise, *Control of Substances Hazardous to Health* (COSHH), Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH))
				  • Honesty in trade (e.g. Weights and Measures, Trade Descriptions, Trademarks, Copyright, Sale of Goods)
				  • Environmental protection (e.g. Packaging Essential Requirements, packaging waste regulations)
				These are UK examples and alternative legislation from different regions can be used.

		4.2	Explain the consequences of failure to comply	• Legal and commercial consequences of failure to comply with legislation for the pack itself and the company in general

Learning Outcomes: what you need to know/understand		**Assessment Criteria:** what you need to do		**Indicative Content**
5.0	Understand the factors that impact on environmental sustainability of packaging	5.1	Identify and describe key packaging sustainability issues	• Awareness of the pillars of sustainability (social, economic & environmental) • Factors which affect the impact of packaging on the environment. Resource usage (e.g. trees, oil), greenhouse gas emissions/global warming, waste (e.g. litter, landfill, nurdles/ microplastics). • Placing the environmental impact of packaging in context with its role in society and its economic role in conserving product resources and value (e.g. Packaging “optimisation”) • Material selection (e.g. biobased, biodegradable, compostable packaging, and plastic replacements).
		5.2	Discuss how packaging supports the development of a circular economy	• Packaging in the industrial, commercial, and domestic waste stream. Comparisons of methods of handling, reduce, reuse, recovery, composting, and recycling as applied different packaging materials. Issues with landfill. Energy and water consumption and carbon emissions. • The concept of “end of life” and “cradle to cradle” in relation to packaging. • Comparison of linear economy to a circular economy • Circular economy strategic responses of government and industry. PCR and legislative changes (e.g. mechanical polymerase chain reaction (PCR), chemical polymerase chain reaction (PCR). Different quality, variation batch to batch, methods to ensure it’s safe, certification, legislative requirements, etc.). • Design for circular economy in terms of packaging format and material cycles. Design for circularity principles. Consumer engagement with circular economy packaging. • Collaborative innovation for a circular economy. Recycling processes and issues (e.g. mono materials recovery, tethered caps, and recyclability).

Learning Outcomes: what you need to know/understand		**Assessment Criteria:** what you need to do		**Indicative Content**
		5.3	Discuss the different strategies for assessing the impact of packaging on the environment	• Tools for evaluating environmental impact through different measures (e.g. life cycle analysis for a total packed product, units of measurement such as CO^2e, and system boundaries). • Systems level thinking • Linking life cycle analysis to circular economy
		5.4	For a given packed product, evaluate the environmental impact on the environment	• Understand product requirements to optimise packaging and reduce product wastage (fit for purpose)

Learning Outcomes: what you need to know/understand		**Assessment Criteria:** what you need to do		**Indicative Content**
6.0	Understand how packaging communicates and satisfies customer needs	6.1	Discuss the relationship between packaging and marketing	• Define marketing and the marketing function as it relates to packaging • Understand the roles and responsibilities of marketing (e.g. 7 P's including place, price, product, and promotion) • Use of market research tools and techniques to identify customer needs (e.g. market segmentation, gap analysis, competitor analysis)
		6.2	Explain the impact of packaging on branding, product promotion and advertising	• For a range of different packed products, discuss the inter-relation between the pack and the product's brand image • Branding and the impact of packaging on product promotion and advertising • Importance of consistency of communication across brand elements and the inter-relation between the pack, promotion, and advertising in different products
		6.3	Summarise how packaging design interacts with the supply chain and the end user	• Structural (e.g. size, colour, shape, texture, shelf fit) • Functional (e.g. dispensing, opening/closing, storing, smart and active) • Graphical (e.g. colour, graphics, typographic, fonts) • Inclusive packaging design for people with limitations (e.g. with use of hands or of their sight). Above are awareness only for more detail see Unit 2 LO8 • Use of technology to enhance user experience (e.g. experience/engagement through Augmented Reality (AR) and Virtual Reality (VR))

ASSESSMENT

This qualification is assessed by one 2-hour examinations, which is a combination of short-answer format and long-answer format questions.

The examination is graded *Pass, Merit* or *Distinction*. For a **Pass** the overall mark is 50 - 59%, for a **Merit** is 60 – 69% and over 70%+ for a **Distinction**.

The grading structure for the examination is not subject to change.

QUALIFICATION CERTIFICATION

The full qualification is available at *Pass, Merit* or *Distinction* to candidates who successfully complete all the units.

The grading structure for the qualification is not subject to change.

GLOSSARY

Term	Definition
Learning outcome	This describes what a learner needs to know, understand or do as a result of the process of learning
Assessment criteria	These are the requirements learners are expected to meet to demonstrate that a learning outcome has been achieved.
Indicative content	Indicative content provides examples of the range of content learners are expected to cover in programmes preparing them for assessment.
Indicative approach	Indicative approach provides an example of the steps learners may take in developing and producing a project.
Primary Packaging	'Primary' or 'Sales' packaging is packaging which forms a sales unit for the user or final consumer, for example, a box containing soap powder.
Secondary Packaging	'Secondary' or 'Grouped' packaging is that which contains a number of sales units, for example, a cardboard outer containing a number of boxes of soap powder.
Tertiary Packaging	'Tertiary' or 'Transport' packaging is packaging that is used to group secondary packaging together to aid handling and transportation and prevent damage to the products, for example, the pallet and shrink wrap used to transport a number of cardboard outers containing boxes of soap powder.
Packaging	Packaging is defined as "all products made of any materials of any nature to be used for the containment, protection, handling, delivery and preservation of goods from the producer to the user or consumer."
Life Cycle Analysis	Life Cycle Analysis is a technique that quantifies the environmental burdens of a total pack in terms of its consumption of raw materials and energy, and the emissions to air, water and the solid waste stream, during its life.
Life Cycle Assessment	A Life Cycle Assessment is a qualitative interpretation of Life Cycle Analysis results that classifies and evaluates the effect of these results on environmental concerns such as global warming, ozone depletion and acid rain.
Marketing	Marketing is the management process responsible for identifying, anticipating and satisfying customer requirements profitably. (Source: Chartered Institute of Marketing)

FURTHER INFORMATION

Please contact PIABC Limited directly at:
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