



Level 3 Advanced Technical Extended Diploma in Horticulture (1080) (0174-008/508) (0174-37)

September 2017 Version 1.0

Guide to the examination

Who is this document for?

This document has been produced for centres who offer **City & Guilds Level 3 Advanced Technical Extended Diploma in Horticulture**. It gives all of the essential details of the qualification's external assessment (exam) arrangements and has been produced to support the preparation of candidates to take the exam/s.

The document comprises four sections:

1. **Details of the exam.** This section gives details of the structure, length and timing of the exam.
2. **Content assessed by the exam.** This section gives a summary of the content that will be covered in each exam and information of how marks are allocated to the content.
3. **Guidance.** This section gives guidance on the language of the exam, the types of questions included and examples of these, and links to further resources to support teaching and exam preparation.
4. **Further information.** This section lists other sources of information about this qualification and City & Guilds Technical Qualifications.

1. Details of the exam

External assessment

City & Guilds Technical qualifications have been developed to meet national policy changes designed to raise the rigour and robustness of vocational qualifications. These changes are being made to ensure our qualifications can meet the needs of employers and Higher Education. One of these changes is for the qualifications to have an increased emphasis on external assessment. This is why you will see an external exam in each of our Technical qualifications.

An external assessment is an assessment that is set and/or marked by the awarding organisation (ie externally). All City and Guilds Technical qualifications include an externally set and marked exam. This must be taken at the same time by all candidates who are registered on a particular qualification. We produce an exam timetable each year. This specifies the date and time of the exam so you can plan your delivery, revision and room bookings/PC allocation in plenty of time.

The purpose of this exam is to provide assurance that all candidates achieving the qualification have gained sufficient knowledge and understanding from their programme of study and that they can independently recall and draw their knowledge and understanding together in an integrated way. Whilst this may not be new to you, it is essential that your learners are well prepared and that they have time to revise, reflect and prepare for these exams. We have produced a Teaching, Learning, and Assessment guide that is you should refer to alongside the present document ([Teaching, Learning and Assessment Guide](#)). If a learner does not pass the exam at their first attempt, there is only one opportunity to resit the exam, so preparation is essential.

Exam requirements of this qualification

Level 3 Horticulture - Theory exam (2) (2 hours).

The exam is graded and a candidate must achieve at least a Pass grade in order to be awarded the qualification. (In addition to the exam, a synoptic assignment must also be completed and passed. You can find full details of the synoptic assignment in the *Qualification Handbook* and the *Synoptic Assessment Guide* -please see the links at the end of this document).

When does the exam take place?

This qualification involves a two-year programme of study. Candidates must take the exam at the end of the year of study. The exam is offered on two fixed dates in March or June. The exact dates will be published at the start of the academic year in the *Assessments and Exam Timetable* (<http://www.cityandguilds.com/delivering-our-qualifications/exams-and-admin>).

At the start of the programme of study, in order to effectively plan teaching and exam preparation, centres should know when the exam will be taking place and allocate teaching time accordingly. Section 2 of this document gives a summary of the content that needs to be covered in order to prepare learners for the exam and full details of this are given in the *Qualification Handbook*.

Form of exam

The exam for this qualification can be taken either on paper or online.

Can candidates resit the exam?

Candidates may resit the exam once only. If a candidate fails the exam both on the first attempt and when resitting it, that candidate has failed the qualification and cannot achieve it in that academic year.

How the exam is structured

The Professional Horticulture exam has a total of 60 marks available.

The exam is made up of:

- Approximately 12 short answer questions
- 1 extended response question.

Short answer questions are used to confirm **breadth of knowledge and understanding**.

The extended response question is to allow candidates to demonstrate **higher level and integrated understanding** through written discussion, analysis and evaluation. This question also ensures the exam can differentiate between those learners who are 'just able' and those who are higher achieving.

More details about and examples of question types are given in Section 3 of this document.

Assessment Objectives

The exams are based on the following set of assessment objectives (AOs). These are designed to allow the candidate's responses to be assessed across the following three categories of performance:

- **Recollection** of knowledge.
- **Understanding** of concepts, theories and processes.
- **Integrated application** of knowledge and understanding.

In full, the assessment objectives covered by the exam for this qualification are:

Assessment objective	Mark allocation (approx %)
<i>The candidate..</i>	
AO1 Recalls knowledge from across the breadth of the qualification	30%
AO2 Demonstrates understanding of concepts, theories and processes from a range of learning outcomes.	50%
AO4 Applies knowledge, understanding and skills from across the breadth of the qualification in an integrated and holistic way to achieve specified purposes.	20%

Booking and taking the exam

All assessments for City & Guilds Technical Exams must be booked through Walled Garden. There is a deadline for booking exams, synoptic assessments and any other centre marked assessments, please refer to the time line to check these dates.

The exam must be taken under the supervision of an invigilator who is responsible for ensuring that it is conducted under controlled conditions. Full details of the conditions under which the exam must be taken can be found in the Joint Council for Qualifications (JCQ) document, [*Instructions for Conducting Examinations \(ICE\)*](#).

Special consideration

Candidates who are unable to sit the exam owing to temporary injury, illness or other indisposition at the scheduled time may qualify for special consideration. This is a post-examination adjustment that can, in certain circumstances, be made to a candidate's final grade. The Joint Council for Qualifications' guide to the special consideration process can be found at www.jcq.org.uk.

To make a request for special consideration, please contact: policy@cityandguilds.com

Access arrangements

Access arrangements are arrangements that allow candidates with particular requirements, disabilities or temporary illness to take assessments, where appropriate, using their normal way of working. The Joint Council for Qualifications document, *Access Arrangements and Reasonable Adjustments* gives full details and can be downloaded [here](#).

For further information and to apply for access arrangements please see:

[Access arrangements - When and how applications need to be made to City & Guilds](#)
[Applying for access arrangements on the Walled Garden](#)

2. Content assessed by the exam

Professional Horticulture – Theory exam (2)

The exam assesses:

- Unit 308: Tree and shrub maintenance
- Unit 310: Business management in the land-based sector
- Unit 317: Construct horizontal landscape surfaces

Each exam assesses a sample of the content of these units. This means that a single exam will **not** cover 100% of the unit content. The full range of content will be assessed over a number of examination series. Details of the coverage of a particular exam paper will **not** be released in advance of the exam itself. Centres should **not** make assumptions about what will be assessed by a particular exam based on what has been covered on previous occasions. In order to be fully prepared for the exam, learners **must** be ready to answer questions on **any** of the content outlined below.

The table below provides an overview of how the qualification's Learning Outcomes are covered by each exam and the number of **marks** available per Learning Outcome (ie **not** the number of *questions* per Learning Outcome). In preparing candidates for the exam, we recommend that centres take note of the number of marks allocated to Learning Outcomes and to assign teaching and preparation time accordingly.

In preparing candidates for the exam, centres should refer to the Qualification Handbook which gives full details of each Learning Outcome. The following is a summary of only that qualification content which is assessed by the exam and **not** a summary of the full content of the qualification.

Unit	Learning outcome	Topics	Number of marks
308 Tree and shrub maintenance	LO1 Understand the pruning of trees and shrubs	1.1 The aims and considerations of pruning trees and shrubs 1.2 Pruning techniques 1.3 The immediate and long term biological processes of trees and shrubs in response to pruning and possible consequences of not pruning 1.4 Legislation relevant to pruning trees and shrubs	13
	LO3 Assess trees and shrubs for potential failure	3.1 The potential of trees and shrubs for failure 3.2 The detrimental effects of trees and shrubs on the human environment	

310 Business management in the land-based sector	LO1 Know the breadth and importance of an industry in the environmental and land-based sector	1.1 Importance to the economy 1.2 Associated businesses	27
	LO2 Understand business resources and structures	2.1 Legal structure and organisation 2.2 Physical resource requirements 2.3 Job roles and responsibilities	
	LO3 Understand the business marketplace	3.1 Marketplace, customers and competitors 3.2 Supply chain 3.3 Quality management	
	LO4 Understand how to use financial and physical record keeping systems	4.1 Financial records 4.2 Physical records 4.3 Monitor business performance and progress	
317 Construct horizontal landscape surfaces	LO2 Understand the formation of ground profiles for landscape works	2.1 Construction standards and regulations for foundations 2.2 Layers and materials and their uses 2.3 Potential sources of waste 2.4 Site problems and contingencies	8
	LO4 Understand the maintenance of horizontal surfaces and simple steps	4.1 Estimation of run off and drainage requirement 4.2 Maintenance operations	
Total marks for sections:			48 marks
Integration across units*:			12 marks
Total marks for exam:			60 Marks

* *Integration across units.* These marks relate to Assessment Objective 4). These marks are awarded to differentiate between levels of performance by candidates taking the exam. The marks are given for how well a candidate has applied their knowledge, understanding and skills from across the units that make up the qualification in an integrated way to meet the requirements of the exam questions.

3. Guidance

Vocabulary of the exam: use of 'command' verbs

The exam questions are written using 'command' verbs. These are used to communicate to the candidate the type of answer required. Candidates should be familiarised with these as part of their exam preparation.

The following guidance has been produced on the main command verbs used in City & Guilds Technicals exams.

A more detailed version of this table, which also includes the command verbs used in the assignments is published in *City & Guilds Technical Qualifications Teaching, Learning and Assessment* guide.

Command verb	Explanation and guidance
Analyse	Study or examine a complex issue, subject, event, etc in detail to explain and interpret, elements, causes, characteristics etc
Calculate	Work out the answer to a problem using mathematical operations
Compare (...and contrast) (or <i>describe</i> the similarities/differences)	Consider and describe the similarities (and differences) between two or more features, systems, ideas, etc
Define	Give the meaning of, technical vocabulary, terms, etc.
Describe	Give a detailed written account of a system, feature, etc (..the effect of...on...) the impact, change that has resulted from a cause, event, etc (..the process..) give the steps, stages, etc
Differentiate between	Establish and relate the characteristic differences between two or more things, concepts, etc
Discuss	Talk/write about a topic in detail, considering the different issues, ideas, opinions related to it
Distinguish between	Recognise and describe the characteristic differences between two things, or make one thing seem different from another
Evaluate	Analyse and describe the success, quality, benefits, value, etc (of an end product, outcome, etc)
Explain	Make (a situation, idea, process, etc) clear or easier to understand by giving details, (..how..) Give the stages or steps, etc in a process, including relationships, connections, etc between these and causes and effects.
Give example(s) illustrate/	Use examples or images to support, clarify or demonstrate, an explanation, argument, theory, etc
Give a rationale	Provide a reason/reasons/basis for actions, decisions, beliefs, etc

Identify	Recognise a feature, usually from a document, image, etc and state what it is
Justify	Give reasons for, make a case for, account for, etc decisions, actions, conclusions, etc, in order to demonstrate why they suitable for or correct or meet the particular circumstances, context
Label	Add names or descriptions, indicating their positions, on an image, drawing, diagram, etc
List	Give as many answers, examples, etc as the question indicates (candidates are not required to write in full sentences)
Name	Give the (technical) name of something
Propose	Present a plan, strategy, etc (for consideration, discussion, acceptance, action, etc).
Select	choose the best, most suitable, etc, by making careful decisions
State	Give the answer, clearly and definitely
Summarise	Give a brief statement of the main points (of something)

Question types

The following explains, and gives examples of, types of questions used in City & Guilds Technical exams. In preparing candidates to take the exam, it is recommended that you familiarise them with the requirements of each question type so that they can be effective and make best use of the time available when sitting the exam.

- An effective candidate will gauge the type and length of response required from the question and the number of marks available (which is given for each question on the exam paper).
- Short answer questions may not require candidates to write in complete sentences. Extended response questions will require a more developed response.
- Candidates should read the exam paper before attempting to answer the questions and should allocate time proportionate to the number of marks available for each question or section.

Question type:	Example question:	Mark scheme:
<p>Short answer questions (restricted response) These are questions which require candidates to give a brief and concise written response. The number of marks available will correspond to the number of pieces of information/examples and the length of response required by the question.</p>	<p>State two ways in which waste may occur during hard-landscaping operations and explain for each how waste might be reduced or avoided. (4 marks)</p>	<ul style="list-style-type: none">• Waste of materials through inaccurate ordering (1 mark). More materials than required may be ordered. Wrong materials may be ordered. Ensure quantities are accurately calculated and ordered (1 mark).• Damage to materials through poor handling or storage (1 mark). Ensure materials are handled and stored appropriately so that damage is minimised (1 mark).• Damage to materials by inclement weather (1 mark). Ensure materials are stored appropriately, e.g. timber and cement under cover (1 mark).• Theft of materials (1 mark). Valuable materials should be stored securely (1 mark).• Wasted time through poor systems (1 mark). Materials not been available when

required due to poor ordering processes and schedules of work (1 mark).

Structured Response Questions

These are questions that have more than one part (eg a, b), etc.). The overall question is made up of linked, short answer questions which move the candidate through the topic in a structured way. For example, the question will usually start with a 'recall'/'state'/'describe' question followed by an 'explain' to draw out understanding of the topic. They usually have a shared introductory 'stem', and the number of marks may increase through the question.

a) State the term used to describe the pruning method used for some species of dogwoods (*Cornus*) grown for colourful stems. (1 mark)

b) Name one other genus of shrubs that can be pruned in this way. (1 mark)

c) Explain how and when dogwoods should be pruned to maximise the effect of their ornamental stems. (4 marks)

a) Coppicing (or stooling). (1 mark) Do not accept pollarding.

b) *Catalpa* (leaves), *Corylus* (stems – longer period between coppicing), *Cotinus* (leaves), *Eucalyptus* (leaves), *Paulownia* (leaves), *Salix* (stems), *Sambucus* (leaves) or other appropriate example (1 mark).

c) Three marks for describing the technique of coppicing.

- Prune back all stems to within 5-7.5cm from the ground or to the stubs from the previous year (1 mark).
- Prune above a node ideally with a sloping cut (1 mark).
- Remove dead, diseased and damaged growth completely. Remove spindly and weak growth completely (1 mark).

One mark for stating when pruning should take place.

- Typically mid to late-March through until early April, this may vary on season and location but before bud-break or just as new growth is developing in Spring (1 mark).
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Extended response questions

Extended response questions are those that require the candidate to write a longer written response using sentences and paragraphs. These usually require candidates to discuss, explain, etc. a topic in some detail. The question is often based on a short case study, scenario or other prompt. The level of detail should be gauged from the question and the number of marks available.

Example question

Evaluate the different roles of people employed in the horticulture industry. (12 marks)

Mark Scheme

Indicative content

- director
- manager
- supervisor
- team worker
- trainee (apprentice)
- administrator
- volunteer
- sub-contractor
- job description (eg responsibilities for financial physical and human resources, staff motivation and performance management)
- person specification (typical skills, qualifications and experience required to fulfil the role)
- legal rights and responsibilities in work (eg pay, working hours, holidays, equal

Band 1 (1-4 marks)

Basic understanding of the roles of a limited range of different workers. Limited discussion with little evaluation. To access the higher marks in the band, a wider range of roles should be provided or more detailed descriptions of a limited number of roles.

Example band 1 response

A manager is in charge of other workers and tells them what to do. They might give you a job. They might run a landscaping company.

A trainee is someone who trains to do a new job such as hard-landscaping.

Band 2 (5-8 marks)

Detailed evaluation of a good range of job roles. Good understanding of different job roles with accurate job descriptions, person specifications and areas of responsibility.

To access the higher marks in the band, a wide range of job roles was considered.

Example band 2 response

A manager is an employee who manages other staff. Managers could be junior, middle or senior managers. Senior managers have considerably more responsibility and will be paid more. Most horticulture companies are SMEs and so do not have a complex management structure.

A trainee is a junior member of staff who is undertaking work-related training in order to perform a particular role. Trainees may be apprentices in which case they will also be attending college, usually one day per week. They may work for a landscaping company or nursery.

An administrator is someone within an organisation responsible for carrying out administrative duties, this could include organising or supervising the way in which a company is run.

A volunteer is someone who works for an organisation who provides their work for free although they may receive out of pocket expenses.

Band 3 (9-12 marks)

Thorough understanding of a wide range of different job roles supported by appropriate examples used to fully support the discussion. To access the higher marks in the band, a comprehensive range of job roles was discussed in detail.

Example band 3 response

A manager is an employee who has responsibility for the control or administration of staff within an organisation or division of an organisation. Generally more senior managers will have greater responsibility and command higher salaries. They may be involved with specific areas such as sales, human resources, finance or projects. Depending on their level of responsibility they may be responsible for hiring and dismissing staff, training, disciplinary procedures, settling disputes, staff appraisals, target setting based on company goals, responsibility for budgets, attending management meetings. Managers must have leadership and communication skills. Many horticulture companies are small and medium sized enterprises (SMEs) and so may only have a small number of managers.

A trainee is someone undertaking work-related training for a specific role. Trainees are often apprentices which involve undertaking an apprenticeship which combines work-related training with study. Apprentices work alongside other employees within the business and learn skills specific to that role. Apprentices are paid a wage and receive holiday pay. An apprenticeship can be undertaken at various levels and may take 1-5 years to complete. Other trainees may be part of a company's own training programme or graduate training programme. Trainees may be found in a variety of roles such as a landscaping company, National Trust gardens and the Historic and Botanic Garden Trainee Programmes (HBGTP) scheme.

An administrator is a person who helps to organise the running of a company. Administrative duties at a junior level may involve answering the phone or organising files but more senior administrators are involved in the management of an organisation. In smaller companies such as a local landscaping firm the administrative duties are often undertaken by the owner of the company.

A volunteer is someone who provides their labour for free. They do not have a contract of employment and so do not have the same rights as an employee but they may have a volunteer agreement which outlines their role, any training provided and what expenses they may claim. Volunteers should not be replacements for salaried staff roles but are commonly used in historic parks and gardens by the National Trust, English Heritage and Royal Horticultural Society. Local parks also increasingly make use of volunteers to offset funding but to council budgets.

Directors are senior managers with executive powers within an organisation usually responsible for a specific area of the organisation such as sales, projects or finance. The board of directors is an executive group with overall responsibility for running a company. Directors may also be appointed on regional or area basis in organisations that cover large geographical areas. Larger horticultural companies such as garden centre chains, large nurseries and national contractors are likely to be run by a board of directors.

Example band 3 response (continued)

Supervisors are generally junior managers with responsibility for directing and overseeing the work carried out by one or more staff members. A supervisor may oversee the work carried out during landscaping works and be responsible for quality and timely completion of the work. A supervisor might also be called a foreman or charge-hand.

Team workers are those employees that work together as a team in order to complete a particular task, generally more efficiently and effectively than could be done as individuals. Teams work by collaboration, co-operation and co-ordination of the team members. Typically a team will be overseen by a supervisor or other manager who directs and co-ordinates the work done by the other team members. A team might be a production section on a nursery or team of arborists

Sub-contractors are workers working for an organisation but not directly employed by that organisation. Principal contractors working on projects that are too large for them to complete or requiring specific skills typically award this work to sub-contractors who may be self-employed or employees for another company. In horticulture and building it is common for self-employed people to work as sub-contractors for tax and other reasons. If a sub-contractor works solely for one organisation, takes no financial risk and does not provide their own tools they should likely be classed as employees. Sub-contractors are also commonly used by large facilities management firms that provide services for national and local government.

Examination technique

Candidates with a good understanding of the subject being assessed can often lose marks in exams because they lack experience or confidence in exams or awareness of how to maximise the time available to get the most out of the exam. Here is some suggested guidance for areas that could be covered in advance to help learners improve exam performance.

Before the exam

Although candidates cannot plan the answers they will give in advance, exams for Technical qualifications do follow a common structure and format. In advance of taking the exam, candidates should:

- be familiar with the structure of the exam (ie number and type of questions).
- be aware of the amount of time they have in total to complete the exam.
- have a plan, based on the exam start and finish time for how long to spend on each question/section of the exam.
- be aware of how many marks are available for each question, how much they should expect to write for each question and allow most time for those questions which have the most marks available.

At the start of the exam session

At the start of the exam, candidates:

- should carefully read through the exam paper before answering any questions.
- may find it helpful, where possible, to mark or highlight key information such as command words and number of marks available on the question paper.
- identify questions which require an extended written answer and those questions where all or part of the question may be answered by giving bullets, lists etc rather than full sentences.

Answering the questions

Candidates do not have to answer exam questions in any particular order. They may find it helpful to consider, for example:

- tackling first those questions which they find easiest. This should help them get into the 'flow' of the exam and help confidence by building up marks quickly and at the start of the exam.
- tackling the extended answer question at an early stage of the exam to make sure they spend sufficient time on it and do not run out of time at the end of the exam.

Candidates should avoid wasting time by repeating the question either in full or in part in their answer.

Candidates should **always** attempt every question, even questions where they may be less confident about the answer they are giving. Candidates should be discouraged however, from spending too long on any answer they are less sure about and providing answers that are longer and give more detail than should be necessary in the hope of picking up marks. This may mean they have less time to answer questions that they are better prepared to answer.

Extended answer questions

Before writing out in full their answer to extended questions, candidates may find it helpful to identify the key requirements of the question and jot down a brief plan or outline of how they will answer it. This will help clarify their thinking and make sure that they don't get 'bogged down' or provide too much detail for one part of the question at the expense of others.

Towards the end of the exam

Candidates should always set aside time at the end of the exam to read back through and review what they have written in order to make sure this is legible, makes sense and answers the question in full.

If a candidate finds they are running out of time to finish an answer towards the end of the exam, they should attempt to complete the answer in abbreviated or note form. Provided the content is clear and relevant, examiners will consider such answers and award marks where merited.

Further guidance on preparing candidates to take the exam is given in the City & Guilds publication, [Technical Qualifications, Teaching, Learning and Assessment](#) which can be downloaded free of charge from City & Guilds website.

4. Further information

For further information to support delivery and exam preparation for this qualification, centres should see:

City & Guilds

Qualification homepage: <http://www.cityandguilds.com/qualifications-and-apprenticeships/land-based-services/horticulture/0174-technical-in-horticulture-and-forestry-arboriculture#tab=information>

which includes:

- Qualification handbook
- Synoptic Assignment
- Sample assessments

Technical Qualifications, Resources and Support: cityandguilds.com/techbac/technical-qualifications/resources-and-support

Joint Council for Qualifications

Instructions for Conducting Examinations: www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations