



Level 2 Technical Certificate in Automotive 4292-21

May 2019 Version 2.1

Guide to the examination

Who is this document for?

This document has been produced for centres who offer **City & Guilds Level 2 Technical Certificate in Automotive**. 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 2 Automotive – Theory exam (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?

The exam is offered on two fixed dates in March and 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

Each exam has a total of 60 marks available.

Each exam is made up of approximately:

- 10 to 11 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 %)
AO1 Recalls knowledge from across the breadth of the qualification	46%
AO2 Demonstrates understanding of concepts, theories and processes from a range of learning outcomes.	40%
AO4 Applies knowledge, understanding and skills from across the breadth of the qualification in an integrated and holistic way to achieve specified purposes.	14%

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

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
201 Automotive Health and Safety	LO1 Understand implications of the law with regard to health and safety at work	1.1 Implications to the individual and employer of current health and safety legislation 1.2 Employer and employee responsibilities	8
	LO2 Identify the factors leading to accidents and how to control them	2.1 Causes of accidents 2.2 Prevention of accidents 2.3 Making positive decisions	
	LO3 Carry out tasks ensuring safety precautions and procedures are followed	3.1 Safety procedures to prevent injury 3.2 Safety precautions and procedures to be followed when carrying out tasks	
202 Automotive Industry and Careers	LO1 Identify the different career paths within the automotive industry	1.1 Different business types 1.2 Career path requirements for the different types of business 1.3 interdependence of the business types	
	LO2 Recognise job roles and requirements	2.1 Different job roles required within the automotive industry 2.2 Changes within the automotive industry 2.3 Job roles responsibilities	
	LO3 Understand types of employment conditions	3.1 Types of employment 3.2 Appraisal system 3.3 Methods of how employment can be terminated	

203 Servicing and Inspection	LO1 Recognise the main vehicle system and components that require regular servicing	1.1 Main inspection and service components 1.2 inspection and servicing tools and measuring equipment	
	LO2 Identify typical service/inspection types	2.1 Servicing and inspection types	
	LO3 Carry out vehicle inspection and service procedures	3.1 Interpret vehicle information and data 3.2 Apply inspection and service procedures 3.3 Dispose of waste products correctly	
204 Automotive Fast-Fit Systems	LO1 Understand the types of vehicle fast-fit components and specialist equipment	1.1 Types of tyres and specialist equipment 1.2 Exhaust components and specialist alignment equipment 1.3 Steering and suspension components and specialist alignment components 1.4 Batteries and specialist test and maintenance equipment 1.5 Automotive workshop tools and equipment	8
	LO2 Carry out removal and replacement of fast-fit components	2.1 Remove and replace wheels and tyres 2.2 Remove and replace an exhaust system 2.3 Use wheel alignment equipment	
205 Vehicle Chassis Systems	LO1 Recognise vehicle braking systems	1.1 Braking system in their usual forms and locations 1.2 Purpose and functional requirements of braking systems 1.3 Working principles of braking systems 1.4 Main components of braking systems	16
	LO2 Recognise vehicle steering systems	2.1 Steering systems in their usual forms and locations 2.2 Purpose and functional requirements of the steering system 2.3 Working principles of the steering system	

		2.4 Main components of the steering system	
	LO3 Recognise vehicle suspension systems	3.1 Suspension systems in their usual forms and locations 3.2 Purpose and functional requirements of the suspension system 3.3 Working principles of the suspension system 3.4 Main components of the suspension system	
208 Using Practical Tools	LO1 Understand automotive engineering marking out and measuring tools	1.1 Locations of engines 1.2 Importance of different engine locations	
	LO2 Interpret engineering drawings for automotive service and repair	2.1 Different engine types	
	LO3 Use automotive tools and joining equipment for cutting and threading	3.1 Engine operation 3.2 Definition of terminology 3.3 Main engine components	
	LO4 Understand the main statutory requirements for engines	4.1 Main statutory requirements	
209 Automotive Electronics	LO1 Understand the principles of electrical circuits	1.1 Safety requirements when working with electrical circuits and testers 1.2 Functions and operations of electrical components used in automotive applications 1.3 Electrical units	

		1.4 Electrical symbols	
	LO2 Test electrical circuits	2.1 Use electrical circuit principles 2.2 Calculatings using Ohms Law	
210 Automotive Transmission	LO1 Identify specialist workshop transmission tools and equipment	1.1 Transmission tools and equipment	13
	LO2 Recognise vehicle transmission system components	2.1 Purposes of the transmission systems 2.2 Manual transmission system components 2.3 Other transmission types	
	LO3 Remove and replace transmission system components	3.1 Transmission components 3.2 Use mathematical number skills for clutch, gearbox and drive-line systems	
		Total marks for sections:	56 marks
		Integration across units*:	9 marks
		Total marks for exam:	65 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.

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.

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 describe 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.

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.

Example question:

Explain why it is important to wear latex gloves whilst carrying out a vehicle service. (2 marks)

Mark scheme/responses

Latex gloves are used as PPE to protect the skin from dirt (1 mark) and reduce risk of skin problems e.g. dermatitis (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.

Example question:

a) *Explain why one lamp stays illuminated on a headlamp circuit when the other lamp fails.* (3 marks)

b) *State **three** faulty components that would stop a vehicle's headlamp from operating.* (3 marks)

Mark scheme/responses:

a) *On a parallel circuit (1 mark) if one lamp is not operating the other lamp will not be affected (1 mark) as they have a separate supply and earth (1 mark).*

b) *1 mark for each of the following correct answer, maximum of 3 marks:*

- *Fuse*
- *Switch*
- *Relay*
- *Connector*
- *Wiring*
- *Bulb.*

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:

Your company has decided to start a new mobile valeting service in the local area.

Produce a plan for marketing and providing this new service.

(9 marks)

Mark scheme/responses:

Indicative Content

Learners are required to give a full explanation on how the process of marketing and implementing a new service is carried out.

It must include.

- *Methods used to market and promote the service.*
 - *Use of social media and internet and why they are used*
 - *Types of medium to promote the service, electronic – paper-word of mouth-events.*
- *How to apply a marketing plan and launch the service.*
- *Career opportunities/job promotion*
- *Health and safety/COSHH/PPE/VPE*
- *Tools and equipment required.*

Band Descriptors

Band 1 (1-3 marks)

The learner shows very limited knowledge of the task and how to approach it.

The learner has identified some of the process and one or two key areas, but has not been able to describe them in a logical sequence; their approach to the task is very random.

There has been no attempt on producing a marketing or implementation plan any of the requirements of bring the new service to market.

Example band 1 response

I would buy a van and put some equipment in such as a bucket and sponges, I would go around and ask garages if we could clean their vehicles, I would take photographs of what I have done and put them on Facebook so my friends can see how good I am and ask me to clean their vehicles.

I will buy some overalls to protect me and some other protection to keep me dry. When it gets big I will employ staff so we can earn a lot of money.

Band 2 (4-6 marks)

The learner demonstrates some knowledge of the process of a marketing plan but the learner has not fully understood why a plan is required.

The learner has shown knowledge across three or four key areas with basic health and safety and PPE awareness. An incomplete list of tools and equipment have been recommended. A few key job roles are mentioned in the recommendation.

The learner has attempted to show an understanding of how to launch a new service but not fully understood how to bring it to completion.

Example band 2 response

When developing a valeting service a marketing plan will be needed to market the business to other garages so they can see what we do and how we are going to clean their vehicles.

I would put the service on Facebook and Instagram I have a lot of friends and they would see how good the service will be and what we can do and tell their friends. They will also be able to contact the garage quickly so we can offer a fast service.

We would need equipment such a wash and wax shampoos and polish, we will also need some cloths and sponges. I will make sure we follow health and safety and wear overall as it's important we do not have an accident, and are protected.

We will launch the service by driving around garages showing them all our equipment and giving free demonstrations on how good we are at cleaning their vehicles.

Band 3 (7-9 marks)

The learner demonstrates a good understanding of all the requirements of the task. All areas explained in detail.

The learner has produced a detailed marketing plan incorporating different types of promotional methods and how to implement the plan.

The learner has provided a full recommendation list of appropriate equipment that would be required with justification of choice. Health and safety awareness is consistent throughout the plan and job roles for the new business have been mentioned.

The learner has fully demonstrated a comprehensive understanding of the task required by detailing a marketing plan and how to implement the valeting service.

The proposal is constructed in a cohesive manner and clearly shows how all components link into each other in a holistic approach to the process of bringing the new service to the local market.

Example band 3 response

Before marketing the valeting service, I would produce a plan, as it will show how the service will work and what we need for it to be successful and how the service would be marketed. In this plan I would explain the type of media to use and why I would use them, this would be social media, such as Facebook and Twitter as it allow the business to reach a large target market quickly and free of charge, I would then design a web site to show in more detail the services we will offer.

The plan would show other methods of marketing such as leaflet dropping and word of mouth around friends and other garages to promote interest in the service.

I would research the tools and equipment required, which would be a range of cleaning chemicals, sponges and cloths and a power washer and a van to transport it, I will also ensure that COSHH forms are completed and all health and safety guidance is in place, and we have all the required PPE and vehicle protection in place to use.

I would launch it by inviting potential customers to see the equipment and the van I would use at an open day, if successful the valeting service could expand offering job opportunities and promotion to people, such as apprenticeships and part time work for retired people.

0 marks

No rewardable material.

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/transport-maintenance/automotive/4292-technical-in-automotive#tab=information> which includes

- Qualification Handbook
- Synoptic Assessment
- Sample Assessments

Technical Qualifications, Resources and Support: [cityandguilds.com/techbac/technical-qualifications/resources-and-support](http://www.cityandguilds.com/techbac/technical-qualifications/resources-and-support)

Joint Council for Qualifications

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