



City & Guilds Level 2 Extended Technical Occupational Entry in Engineering (Diploma) – Maintenance pathway (2145-12)

Version 1.0 (November 2024)

**Practical Assignment Pack 2145-
251**

Candidate Pack (Sample)

Version and date	Change detail	Section
V1.0 November 2024	Initial version	All

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1. Assessment overview

This guidance contains assessment documentation for the **City & Guilds Level 2 Extended Technical Occupational Entry in Engineering (Diploma) Maintenance pathway**.

The assessment for this component consists of an assignment that includes an assignment brief and then a number of tasks for the candidate to complete.

Each task is assessed by grading descriptors which detail achievement required for a Fail level and Pass level.

2. Candidate guidance

General guidance

Please read **all** information carefully before the assessment.

This is a formal assessment that you will be graded on. You will be marked on the quality and accuracy of the work you produce. It is therefore important that you carry out your work out to the highest standard you can.

Plagiarism

Plagiarism is the failure to acknowledge sources properly and/or the submission of another person's work as if it were your own. Plagiarism is **not** allowed in this assignment.

This assignment is an assessment of your abilities, so the work submitted must be all your own and carried out under the conditions stated. You will be asked to sign a declaration that you have not had any help with the assignment. Your assessor is allowed to give you general advice i.e., clarification of the task instructions. However, general advice will not include:

- Any specific advice on how to improve work to meet the required standard
- Provide feedback on anything missing from your work
- Intervene in any way that improves the standard or presentation of work

If there is a need to provide more than general advice, your assessor will need to record the advice they have given and take it into account when grading the submitted work.

Where research is allowed, your assessor must be able to identify which work you have done yourself, and what you have found from other sources. It is therefore important to make sure you acknowledge sources used and clearly reference any information taken from them (e.g. providing as a minimum a list of web addresses / books / articles etc used).

Timings and planning

You are advised to study the details of the assessment before starting.

You should check with your assessor that you have all the relevant materials, equipment and information/data sources that you need before starting the assessment.

You should take care when planning to make sure you have divided the time available between parts of the assignment tasks appropriately. Timings for tasks are provided within this pack to support with planning and time allocation.

If you have a good reason for needing more time, you will need to explain the reasons to your assessor and agree a new time for the assessment to take place. Any changes will be at the discretion of the assessor and agreed by City & Guilds.

Word counts

Typical word counts, where indicated, are to be used as approximates for guidance to support the production of sufficient evidence. The grading will relate to the quality of the evidence produced and not whether the word count has been met.

Health and Safety

You must always work safely, while you are carrying out practical tasks.

You must always follow any relevant Health and Safety regulations, Risk Assessments and codes of practice in line with centre requirements.

If your assessor sees you working in a way that is unsafe for yourself or others, they will highlight the issue and ask you to stop the task immediately.

Presentation of work

Presentation of work must be neat, legible and appropriate to the task, and evidence required for submission.

You should make sure that each piece of evidence including any forms are clearly labelled with your name and the project reference.

All electronic files must be given a clear file name that allows your assessor to identify it as your work.

Written work may be word-processed or handwritten unless stated otherwise.

All sketches and drawings should be neat, tidy and annotated.

Calculations should be set out clearly, with all working shown, as well as any assumptions made. You should use appropriate units at all times, consistent with the requirements of the assignment.

Instructions for this assignment

Ensure you read all the provided assessment information issued by the assessor

You must work independently and not share your work with any other candidates in these supervised assessment sessions.

Your work will be kept secure during any supervised breaks that are taken.

Internet access is **not** allowed, unless otherwise stated in the task.

You will not be permitted any additional notes, such as printed resources and textbooks, unless otherwise stated in the conditions for assessment.

You must complete all the tasks and present all evidence that is detailed in each task.

This candidate pack contains the assignment brief.

Any additional documents/templates needed for the task will be provided to you by the assessor.

Within each task you will find the following:

- **Resources:** This provides a list of equipment, documents or tools that you will have access to, to complete the task.
- **Conditions of assessment:** This will tell you the duration and rules you must follow when completing a task.
- **Controlled conditions:** This will tell you the rules you must follow when completing each task e.g. You must not share or discuss your work with other candidates.
- **What must be produced for grading:** This describes the evidence you must submit when the task is completed. Be aware failure to submit any evidence requested can adversely affect your overall mark for the assessment.
- **Additional evidence for this task:** This describes other forms of evidence that will be collected by the assessor to support the grading of your performance. This will often include but is not limited to photographic and video evidence.

3. Assignment brief

You are a maintenance contractor who has won a contract with an organisation to carry out maintenance on a pump or motor.

The pump or motor, including technical information, will be provided by the assessor.

To complete this assignment, you must:

- plan a scheduled maintenance task on the pump/motor
- perform the maintenance tasks
- produce a maintenance report
- produce an email to the organisation whom you have a contract with.

This assignment has a total duration of **14 hours**.

4. Tasks

Task 1 – Plan the maintenance activity

You must read the assignment brief and technical information about the pump/motor provided and then:

- a) Create a list of the requirements and resources, justifying your selections. This should include:
 - all necessary technical documentation and drawings to confirm the type, scope and requirements of the activity
 - tools and equipment
 - materials, components and consumables
 - wastage and disposal requirements
 - scheduling requirements.
- b) Produce a maintenance schedule, including:
 - time needed to carry out the activity
 - service and maintenance activities.
- c) Complete a risk assessment using the template provided (Appendix 1).
- d) Produce a method statement.

Conditions of assessment

- The time allocated for this task is **4 hours**.
- You must carry out the task on your own, under **controlled conditions** while being observed.

Controlled conditions

- You must only work on the task in the allocated time.
- Assessment evidence must be handed in at the end of each session for secure storage which cannot be accessed.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.

What must be produced for grading

- Completed risk assessment (Appendix 1)
- A list of requirements and resources, including justifications for the selections
- Maintenance schedule
- Method statement

Additional evidence for this task

- n/a

Resources

- Access to relevant information sources (digital or hard copy)
- Appropriate ICT equipment and software

Task 2 – Carry out the maintenance activity

You must perform the maintenance activity in accordance with your method statement, including:

- using appropriate personal protective equipment (PPE)
- creating a safe working area
- safe application of isolation techniques
- using appropriate tools and equipment
- disassembling pump/motor to allow access to the components for inspection
- carrying out appropriate maintenance in accordance with the manufacturer's recommendations in the technical information:
 - Clean pump/motor.
 - Check, report on condition, and replace if necessary:
 - shaft
 - bearing(s)
 - seals
 - drive mechanism (eg gear, chains and belts).
 - Reassemble pump/motor, making adjustments to realign component(s) as required:
 - gear and pulleys
 - bearing(s), so no movement in the shaft.
 - Lubricate (if required) and adjust tension of the drive mechanism.
- reinstating the work area and dispose of waste.

You must make notes of your maintenance activities for writing a maintenance report in Task 3.

You will be given a copy of documents from Task 1 (for reference only).

Conditions of assessment

- The time allocated for this task is **6 hours**.
- You must carry out the task on your own, under **controlled conditions** while being observed.

Controlled conditions

- You must only work on the task in the allocated time.
- Assessment evidence must be handed in at the end of each session for secure storage which cannot be accessed.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any additional materials into the assessment session.
- You must be given a copy of your evidence from Task 1 (for reference only):
 - the equipment/system's technical information
 - your list of resources
 - your maintenance schedule
 - your risk assessment

- your method statement.

What must be produced for grading

- The candidate's notes must be handed in at the end of each session of the maintenance activity.

Additional evidence for this task

- Assessor Observation Record Form
- A **minimum** of **four** photographs or video of the maintenance at key stages, (disassembly, maintenance and reassembly) during the activity

Resources

- A range of tools and equipment for maintenance, servicing and repair activities to select from
- Appropriate PPE

Task 3 – Produce a report on the maintenance activity

You must:

a) Produce a maintenance report for your organisation.

Summary of the maintenance activity carried out including:

- the type of maintenance activity carried out, including the advantages and disadvantages of this type of maintenance
- recommendations of any issues and defects identified that may require attention before the next maintenance activity
- review of the risk assessment and method statement, identifying any improvements, if appropriate
- records of any waste disposal
- date of next scheduled maintenance.

You will be given a copy of your notes from Task 2 (for reference only).

b) Produce an email to the organisation who contracted you to complete the maintenance work including:

- a summary of findings and recommendations, including risks if defects not rectified that are clear to someone without engineering experience
- the word count is 300 words
- with the maintenance report attached.

You will be given a copy of your notes from Task 2 (for reference only).

Conditions of assessment

- The time allocated for this task is **4 hours**.
- You must carry out the task on your own, under **controlled conditions** while being observed.

Controlled conditions

- You must only work on the task in the allocated time.
- Assessment evidence must be handed in at the end of each session for secure storage which cannot be accessed.
- You must not share or discuss your work with other candidates.
- You are not permitted to bring any materials into the assessment session.
- You must be given a copy of your notes from Task 1 (for reference only).

What must be produced for grading

- Maintenance report
- Email summary of findings and recommendations

Resources

- Access to relevant information sources (digital or hard copy)
- Appropriate ICT equipment and software

Appendix 1 – Risk assessment template (Task 1)

Task	Qualification number
Task 1 – Plan the maintenance activity	2145-12
Candidate name	Candidate number
Centre name	Centre number

Name (Competent person carrying out the risk assessment)		Role (Job title/company)	
Maintenance work being carried out (Type of machine)			
Date (DD/MM/YYYY)		Latest date for review (DD/MM/YYYY)	
Site details (Enter details of the site that the risk assessment is being carried out on, including site information if multiple sites)			
People at risk	Workers		0
	Adjacent workers		0
	Site wide workers		0
	Visitors		0
	Members of the public		0

Hazards identified (Consider the hazards specific to the type of activities being assessed)	Level of risk (High, medium, low)	Control measures currently in place (Enter details of all control measures that are currently in place)	Additional control measures required (Enter details of any new actions that need to be taken to reduce, control or eliminate the risks of each hazard)	Name (Person responsible for implementing controls)	Date controls must be actioned by (DD/MM/YYYY)

Assessor signature	Date