T-LEVELS | Institute for Apprenticeships & Technical Education

T Level Technical Qualification in Maintenance, Installation and Repair for Engineering and Manufacturing

Employer-Set Project (8730-033)

Task 1
Autumn 2023

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Task 1 – Research

You have been asked to research the different maintenance requirements, parts and components for the turbine in line with the specifications provided by the client.

You are to conduct research into how a gas turbine works, this must include:

- components, operating parameters, and tolerances required for the turbine
- the maintenance requirements of the turbine (frequency, how to carry out maintenance)
- any equipment, materials or resources needed to carry out the maintenance and their cost
- a calculation of the heat transfer rate in the combustion chamber using the information provided in the specification
- layout of gas turbine, including a diagram to represent the energy transfer within the turbine
- health and safety considerations when working with a gas turbine
- laws and regulations that apply to the servicing, overhauling and maintenance of the gas turbine.

Record notes on the findings of your research. Your notes may include:

- sourced pictures, engineering drawings, schematics, images
- specifications, extracts from sources used e.g. examples of maintenance schedules.

The research notes will typically be 1500 words. You must outline how you planned and approached your research within your notes. You must include a list of your references/ sources alongside your research notes. References/sources are not included in the 1500 word count.

Timing of assessment

- You will have **three hours** to carry out the research and record your findings.

Conditions of assessment

- Your research must be completed working alone under supervised conditions.
- You must not share or discuss your work with other candidates.
- You will have access to the Internet to conduct your research.
- Assessment evidence must be handed in at the end of each session for secure storage which cannot be accessed.

What you must submit on completion of this task

- **Research notes** including a list of references/sources (typically 1500 words) hard copy or file saved securely (e.g., in a secure online location or on memory stick to be handed in).

Additional evidence of your performance that will be captured for marking

- N/A

Marks available

- 15

Get in touch

City & Guilds Technicals Quality Team

We are here to answer any queries you may have regarding your T Level Technical Qualification delivery.

Should you require assistance, please contact us using the details below:

T: 0300 303 53 52 (Monday - Friday | 08:30 - 17:00 GMT)

E: technicals.quality@cityandguilds.com

W: cityandguilds.com/tlevels

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