

T Level Technical Qualification in Building Services Engineering for Construction

**Heating Engineering (8710 – 35/36)
(355)**

Candidate Pack

Practical Assignment 2020 – Sample

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Sample

1. Assessment

This assessment is for the Heating Engineering occupational specialism component of the Technical Qualification. This pack consists of a practical assignment that includes a project brief including drawing and diagrams as necessary along with several tasks for you to complete.

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2. Candidate Guidance

General guidance

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

Plagiarism

This is an assessment of your abilities, so the work must be all your own work 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 tutor is allowed to give you some help understanding the instructions if necessary, but they will record any other guidance you need, and this will be taken into account during marking.

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 project.

Where research is allowed, your tutor 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.

Timings and planning

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

You should check with your tutor 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 tutor and agree a new deadline date. Changes to dates will be at the discretion of the tutor, and they may not mark work that is handed in after the agreed deadlines.

If you have a good reason for needing more time, you will need to explain the reasons to your tutor, and this must be agreed by City & Guilds.

Health and Safety

You must always work safely, in particular 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 tutor 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. Your tutor will not be able to reassess you until they are sure you are ready for assessment and can work safely.

Presentation of work

Presentation of work must be appropriate to the task.

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 tutor to identify it as your work.

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

All sketches and drawings should be neat and tidy, to scale 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 contained in this candidate pack.

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.

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

This assessment booklet contains:

- An assignment brief
- Task 1
- Task 2
- Task 3

Within each task you will find the following:

Conditions of assessment: This will tell you the duration and rules you must follow when completing a task.

What must be produced for marking: 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 marking of your performance. This will often include but not limited to photographic and video evidence.

3. Assignment Brief

You have been called to a commercial property to undertake the planning of an installation of a boiler, an S Plan heating system and associated components and an additional radiator in a garage conversion in accordance with the drawing (figure 1).

As part of this work you will be required to carry out a full survey of the proposed installation, including; planning activities, measurements and calculations.

The customer has identified a ground floor space and has requested the following:

- the installation of a new radiator with low carbon steel pipework
- the installation of a boiler
- the installation of the S Plan heating system

The layout of the boiler and radiator positions is shown in **Figure 1**.

Your supervisor will notify you of the requirements of the installation and a plan of the proposed space and location of existing services where you will carry out the installation.

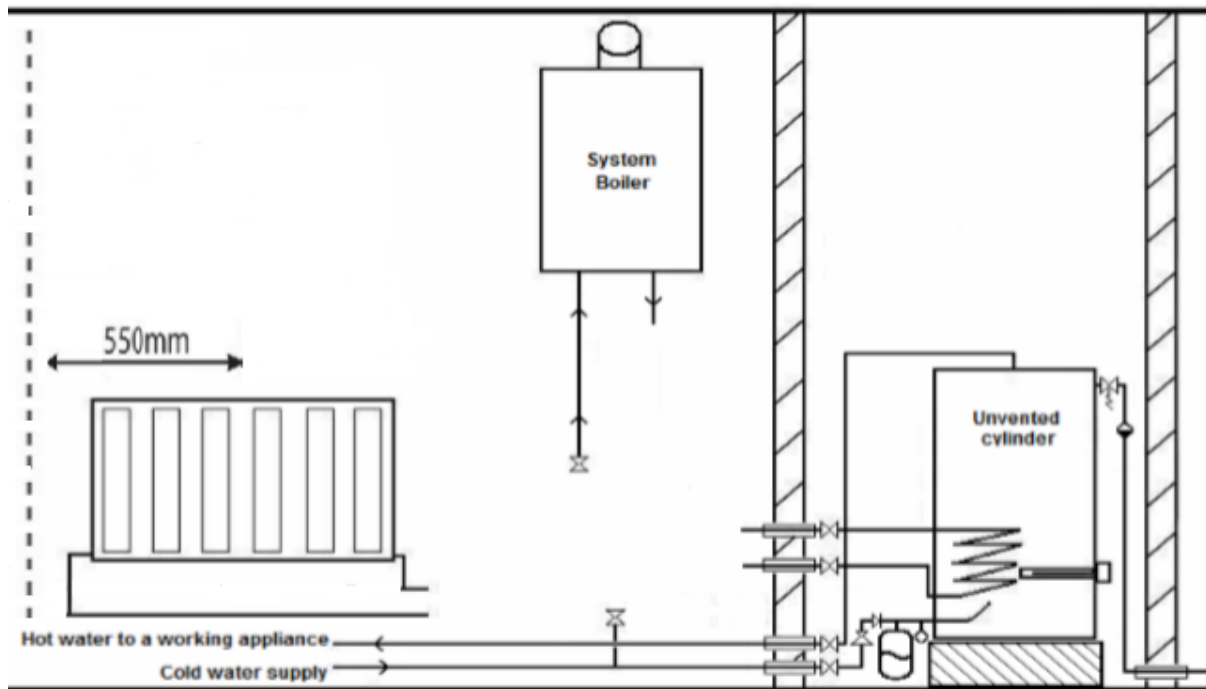
The installation must include:

- the correct dressing of the radiator
- magnetic filter
- all associated thermostatic and lock-shield radiator valves as well as plugs and vents
- associated controls

Once your installation has been completed, commissioned and checked to the customer's satisfaction you are required to decommission the installation.

After a period of time the customer calls to notify you that there is a fault with the central heating. You are required to discuss the maintenance activity with the customer, diagnose the fault, produce a written report and carry out the repair work.

Figure 1



This assignment has a time of 20 hours. Plan your time accordingly to enable completion.

4. Tasks

Task 1 - Planning the installation

Your assessor will provide you with a specific working area and a drawing template to ensure the dimensions meet the centre's resources. You must ensure the drawing is applicable to the location you are being assessed in and is commercially acceptable standard.

- a) Plan the installation of the boiler, the S Plan heating system and the additional radiator in the garage conversion, following the client brief
- b) Measure and mark out work area as detailed in your diagram

Conditions of assessment:

- The time allocated for this task is 5 hours
- You must carry out the task on your own, under controlled conditions

What must be produced for marking:

- Risk assessment
- Method statement with justifications
- Installation diagram with pipe layout, pipe clips and associated controls
- Materials list

Additional evidence of your performance that must be captured for marking:

- Assessor observation of measurements and marking out of space allocation/ work area checked against drawing

Task 2 - Installation, Commission and Decommission

- a) Install the boiler, the S Plan heating system and the additional radiator in accordance with your drawing and as agreed by your assessor.
- b) Connect the electrical supply to the boiler from a suitably supplied fused spur connection following the safe isolation procedure
- c) Commission the system (pipework only) and handover to customer
- d) Decommission the system

Conditions of assessment:

- The time allocated for this task is 12 hours

- You must carry out the task on your own, under controlled conditions

What must be produced for marking:

- Commissioning checklist

Additional evidence of your performance that must be captured for marking:

- Assessor observations:
 - Installation of system
 - Safe isolation
 - Working to tolerances
 - Commissioning
 - Handover to customer
 - Decommissioning

Task 3 – Carry out maintenance

- a) Discuss the fault with the customer, investigate and diagnose.
- b) Produce a written report of the maintenance activity to include:
 - Details of the fault
 - Method chosen for repair and why
 - Detailed process of how you will repair the fault
- c) Rectify and repair fault

Conditions of assessment:

- The time allocated for this task is 3 hours
- You must carry out the task on your own, under controlled conditions

What must be produced for marking:

- A written report of the maintenance activity

Additional evidence of your performance that must be captured for marking:

- Assessor observations
 - Use of tools
 - Fault diagnosis
 - Rectification of fault

End of Assessment

Sample

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