

Cambridge TECHNICALS LEVEL 2

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IT

Unit 9

Supporting IT functions

Model assignment

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Please note:

You can use this assignment to provide evidence for summative assessment, which is when the learner has completed their learning for this unit and is ready to be assessed against the grading criteria.

You can use this assignment as it is, or you can modify it or write your own; we give more information in this document under Guidance for tutors.

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Guidance for tutors on using this assignment

General

OCR Cambridge Technical model assignments are available to download from our website: www.ocr.org.uk.

The purpose of this assignment is to provide a scenario and model of tasks that are typical of how IT support technicians would use fault diagnosis and preventative maintenance to support the IT systems within an organisation, to enable you to assess your learner against the requirements specified in the grading criteria. The scenario and its tasks are intended to give a work-relevant reason for applying the skills, knowledge and understanding needed to achieve the unit.

This assignment will not instruct learners how to meet the highest grade. Whether learners achieve a pass, merit or distinction will depend on what evidence they produce.

You can modify the scenario we provide in this assignment to make it more relevant to your local or regional needs. Please refer to the information under 'Modifying the model assignment' later in this section.

You don't have to use this assignment. You can use it as a guide to help you to design your own assignment, and we provide an assignment checking service. You'll find more information on these matters in section 8 of the qualification handbook.

In the tasks, we'll refer to the format of evidence. Learners are **not** required to follow that format **unless** we tell them otherwise.

It's essential that the work every learner produces is their own. Please make sure you read through the information we give on authenticity in section 8 of the qualification handbook and make sure that your learners and any staff involved in assessment understand how important authenticity is.

We provide this assignment to be used for summative assessment. You must not use it for practice or for formative assessment.

Before using this assignment to carry out assessment

Learners will need to take part in a planned learning programme that covers the knowledge, understanding and skills of the unit.

When your learners are ready to be assessed, they must be provided with a copy of the following sections of this assignment:

- General information for learners
- Assignment for learners
- Evidence Checklist

They may carry out preparation prior to undertaking the tasks and there is no time limit for this.

When completing the assignment

You should use this assignment in conjunction with the unit specification and qualification handbook.

This assignment should take between 9 and 13 hours depending on the time taken with fault location and diagnoses completed by the learners.

It should be noted that the identification and diagnosis of hardware and software faults is a complex activity and so additional time should be made available to allow learners to fully develop their skills.

Tutors will need to prepare resources for Task 2 and Task 3 that will allow learners the opportunity to use their practical fault finding skills to successfully meet the requirements of the specification.

Evidence formats have been suggested for each task. However, for the more practical elements of the assignment i.e. Task 2 and Task 3, learners may find the use of pictures or video a more useful and efficient method of evidence collection, providing the required criteria has been met.

Resources to complete the tasks

There are resource requirements for this assignment. Every learner will need access to the following resources:

For Task 2 learners will need to use diagnostic tools to identify hardware faults and so tutors should provide learners with IT systems containing pre-set faults. A range of tools that could be used for the diagnosis of hardware faults can be found in the teaching content.

Possible ideas for hardware faults could be:

- printer alignment adjustment or empty toner;
- unplugged cables or blown fuses;
- dirty/damaged keyboards;
- blue screen errors;
- noisy computer/laptop;
- intermittent sound;
- oversized images on a display screen;
- damaged hard drive/cd drive.

For Task 3 learners will need to use diagnostic tools to identify software faults and so tutors should provide learners with IT systems containing pre-installed faults. A range of tools that could be used for the diagnosis of software faults can be found in the teaching content.

Possible ideas for software faults could be:

- virus infection or malware;
- printer not seen on device list;
- applications will not open;
- spam emails being received;
- wireless network connectivity issues;
- incorrect permissions on files/folders;
- slow running computer;
- out of date anti-virus software;
- web pages not playing media correctly.

Task 2 and Task 3 could also be an opportunity to incorporate the use of an expert to offer guidance and training for the activities. The Network Manager, or an external expert, could be used to introduce the tasks and present a practical perspective on the role of an IT support practitioner.

This is also an opportunity to source meaningful employer involvement (MEI) which can be evidenced as part of the IT Technical Practitioner pathway.

Health and safety and the use of resources

For Task 2 learners are being asked to use diagnostic tools to identify hardware faults.

Guidance and training should be provided to learners regarding the correct use of the testing equipment and the safety precautions that should be taken when working on potentially live electrical equipment.

Learners should also be provided with any appropriate safety equipment that may be required for the task.

Time

You should plan for learners to have 9–13 hours to complete this assignment.

Learners must be allowed sufficient time to complete all the tasks. The amount of time may vary depending on the nature of the tasks and the ability of individual learners. To help with your planning, against each of the tasks we've given an indication of how long it should take.

Learners can produce evidence in several sessions.

Format of evidence

Learners have to produce evidence that demonstrates how they have met the grading criteria. At the very least they must produce evidence that meets **all** of the pass criteria.

Please make sure your learners realise that missing just one pass criterion means they will not pass the unit, even if they have successfully met the merit and distinction criteria.

It's possible that certain formats for evidence can naturally cover several grading criteria and avoid the need for excessive amounts of evidence. For example, a report can be a good way to pull together evidence to meet several grading criteria.

For more guidance on generation and collection of evidence, please refer to the section 8 'Internal Assessment', in the qualification handbook.

Group work

This assignment hasn't been written to include group work.

After completing the assignment

Once the learner has submitted their work to you to be assessed, you must judge or 'mark' the work against the grading criteria for the unit and identify one grade for the unit. For further information about assessment, please refer to section 8 of the qualification handbook.

Your assessment decisions must be quality assured across the cohort of learners in your centre who are being entered for the same unit. This must be done through an internal standardisation process. We give information on internal assessment and standardisation in the qualification handbook.

Reworking the assignment

If you and the learner feel they've not performed at their best during the assessment, the learner can, at your discretion, improve their work and resubmit it to you for assessment. If a learner is working on improving their work before it is resubmitted, you and the learner must continue to make sure the work is the learner's own.

Any feedback you give to the learner must not direct them on how to improve their work. You can identify what area of the work could be improved but you cannot give the learner any details about how they could improve it. You must follow the guidelines given in section 8 of the qualification handbook under 'Authenticity of learner work'.

Modifying the model assignment

The tasks in this assignment allow learners access to the full range of grades detailed in the grading criteria of this unit.

If you modify this assignment you must **not** change the grading criteria provided in the tasks for the learner or in the evidence checklist. These grading criteria are taken from the unit.

You can modify the scenario to suit your local or regional needs and the tasks may be contextualised to match any changes you have made to the scenario. If you supply your own drawings to support a different scenario, these must be sufficiently detailed for learners to complete the tasks.

You can modify the type of evidence and the format it takes, unless we expressly state that evidence must take a specific format.

You must also make sure that you avoid discrimination, bias and stereotyping and support equality and diversity. For more information, please see the section 'Designing your own assignments for internally assessed units' in section 8 of the qualification handbook.

If modifications are made to the model assignment, whether to the scenario alone, or to both the scenario and individual tasks, it's your responsibility to make sure that all grading criteria can still be met and that learners can access the full range of grades.

If you're using this model assignment and delivering the Certificate you have an opportunity to secure meaningful employer involvement by working with an employer to modify it.

General information for learners

Q *What do I need to do to pass this assignment?*

A You need to produce evidence to meet the requirements of **all** the pass criteria for the unit this assignment relates to. If you miss just one pass criterion, you will not achieve this unit and will receive an unclassified result.

Q *What do I need to do if I want to get a merit or distinction for this assignment?*

A For a merit, you need to produce evidence to meet the requirements of **all** the pass criteria for the unit this assignment relates to **and** you need to produce evidence to meet **all** the merit criteria.

For a distinction, in addition to the above, you also need to meet **all** the distinction criteria for this unit.

Q *What help will I get?*

A Your tutor will support you when completing this assignment and will make sure that you know what resources or facilities you need and are allowed to use. We've given your tutor information about how much support they can give you.

Q *What if I don't understand something?*

A It's your responsibility to read the assignment carefully and make sure you understand what you need to do and what you should hand in. If you are not sure, check with your tutor.

Q *I've been told I must not plagiarise. What does this mean?*

A Plagiarism is when you take someone else's work and pass this off as your own, or if you fail to acknowledge sources properly. This includes information taken from the internet.

It's not just about presenting a whole copied assignment as your own; you will also be plagiarising if you use the ideas or words of others without acknowledgement, and this is why it's important to reference your work correctly (see Q&A below for more information on referencing).

Plagiarism has serious consequences; you could lose the grade for this unit or you may not be allowed to achieve the whole qualification.

Always remember that the work you produce must be your own work. You will be asked to sign a declaration to say that it is.

Q *What is referencing and where can I find out more information about it?*

A Referencing is the process of acknowledging the work of others. If you use someone else's words and ideas in your assignment, you must acknowledge it, and this is done through referencing.

You should think about why you want to use and reference other people's work. If you need to show your own knowledge or understanding about an aspect of subject content in your assignment, then just quoting and referencing someone else's work will not show that **you** know or understand it. Make sure it's clear in your work how you are using the material you have referenced **to inform** your thoughts, ideas or conclusions.

You can find more information about how to reference in *The OCR Guide to Referencing* available on our website: <http://www.ocr.org.uk/Images/168840-the-ocr-guide-to-referencing>

Q **Can I work in a group?**

A The assignment hasn't been written to include group work.

Q **Does my work for each task need to be in a particular format?**

A You can present your work in a variety of ways – it can be handwritten, word-processed, on video or in digital media. What you choose should be appropriate to the task(s) and your tutor can advise you about this. There may be times when you need proof that you have completed the work yourself: for example, if you do something during work placement that you want to use as evidence, the tutor might ask the employer to provide a witness statement.

Make sure you check the wording in each task carefully. For each task, we'll tell you if your evidence has to be in a specific format:

- If we use the word '**must**', for example 'You must produce a report' or 'Your evidence/work must include a diagram', then you must produce the work in the stated format.
- If we use the word '**could**', for example 'You could include sketches of your ideas' or 'You could do this by annotating your diagram', this means that you are not required to follow the format we have given, but you must make sure that the work you do produce allows you to demonstrate the requirements of the grading criteria.

If you are unsure about what evidence you need, please ask your tutor.

Q **Can I ask my tutor for feedback on my work?**

A Yes, but they can't give you detailed feedback.

We have given your tutor instructions on what kind of feedback they can give you. For example, they are **not** allowed to tell you exactly what to do to make your work better, but they **can** remind you about what they've taught you and you can use this additional learning to try and improve your work independently. They can say what they've noticed might be wrong with your work, for example if your work is descriptive where an evaluation is required, but your tutor can't tell you specifically what you need to do to change it from a description to an evaluation – you will need to work out what you need to do and then do it for yourself.

Q **When I have finished, what do I need to do?**

A If you have included the personal details (such as name, address or date of birth) of someone other than yourself in your work, this must be blanked out (anonymised) – your tutor will tell you how to do this. You don't need to do this for information contained in references.

You can complete the evidence checklist to show your tutor where they can find the evidence for each grading criterion in your work.

You should make sure your work is labelled, titled and in the correct order for assessing.

Hand in the work that you've completed for each task to your tutor. They might ask to see your draft work, so please keep your draft work in a safe place.

Q **How will my work be assessed?**

A Your work will be marked by someone in your centre who has been authorised to do so. They will use the information in the grading criteria to decide which grade your work meets. The grading criteria are detailed in each unit and are also given in the tasks within this assignment. Please ask your tutor if you are unsure what the grading criteria are for this assignment.

Assignment for learners

Unit 9: Supporting IT functions

Scenario

In order for any organisation to run effectively and successfully achieve its targets a range of supporting systems need to be used. It is now common practice that the vital systems within an organisation are automated and computer controlled which promotes accuracy and efficiency.

This has resulted in the increasing need for the appointment of IT support professionals who are responsible for the diagnosis and repair of hardware and software faults and the routine preventative maintenance required to ensure the longevity and integrity of IT systems.

The role of IT support is now a vital and integral managerial level within most organisations.

Progress Academy – IT support

Progress Academy has recently developed a range of IT systems to replace the previously used paper-based systems for its vital administrative functions.

The SMT at Progress Academy is now concerned that its reliance on the new IT systems, and the subsequent implications if faults occur, may lead to serious consequences if the new IT systems fail.

As a result of these concerns, the SMT is now considering the appointment of an IT support technician. The primary role of the IT support technician would be to conduct routine maintenance and diagnostic testing to ensure that the IT systems at Progress Academy are both secure and robust.

The SMT at Progress Academy would like to find out more about the tasks, activities and benefits that could be gained through the appointment of an IT support professional.

It would also like to see a demonstration of the hardware and software tools that could be used to diagnose and identify IT system faults.

Task 1: Explain the features and functions of IT support

(This task should take between 1 and 2 hours.)

Learning Outcome 1: Understand how organisations use IT support

Your task is to: identify and explain the key features and functions that IT support can provide to an organisation.

The SMT at Progress Academy wants to appoint an IT support technician but requires a justification for the cost. You need to clearly explain the role that IT support can provide and the benefits that this may have on the daily running of the IT systems at Progress Academy.

Your report should also include the potential implications for Progress Academy if the SMT did not provide IT support.

Pass	Merit	Distinction
P1: Describe the features and functions of IT support within an organisation	M1: Explain the benefits of the IT support methods available to an organisation	
Evidence		
<p>A report, podcast, booklet or presentation with speaker notes.</p> <p>This must include:</p> <ul style="list-style-type: none"> • features of IT support – including documentation and training; • functions of IT support – including monitoring and recovery; • methods of providing IT support; • communication methods – including examples of appropriate use; • the benefits of having internal IT support and the implications to the running of Progress; Academy if this support is not readily available. 		

Task 2: Diagnose hardware faults

(This task should take between 3 and 4 hours.)

Learning Outcome 2: Be able to diagnose hardware faults

Your task is to: identify and use a range of diagnostic tools that may be used to locate hardware faults.

The SMT at Progress Academy wants to see how diagnostic tools could be used to identify hardware faults. You must therefore demonstrate the use of a range of diagnostic tools and techniques on an IT system, analysing the results to identify hardware faults

You should compile a summary for the Progress Academy SMT detailing the identified hardware faults and describe possible corrective solutions using terminology appropriate for a non-specialist to understand.

Your tutor will provide the resources to use for this task.

Pass	Merit	Distinction
P2: Generate a list of the tools that can aid in the diagnosis of given hardware faults		
P3: Use suitable tools and techniques to diagnose hardware faults	M2: Analyse the results of the diagnostic testing of hardware faults	D1: Report to the client about the hardware faults diagnosed
Evidence		
<p>A narrated video, annotated pictures or a detailed report or video demonstrating the diagnosis of hardware faults.</p> <p>This must include:</p> <ul style="list-style-type: none">• a range of diagnostic tools used to identify hardware faults;• the actual use of selected diagnostic tools to diagnose the hardware faults;• annotated result reports from diagnostic activities including analysis of the faults and potential solutions;• the appropriate use of terminology suitable for a non-specialist to understand.		

Task 3: Diagnose software faults

(This task should take between 3 and 4 hours.)

Learning Outcome 3: Be able to diagnose software faults

Your task is to: identify and use a range of diagnostic tools that may be used to locate software faults. You need to analyse the test results and suggest corrective action.

The SMT at Progress Academy now wants to see how diagnostic tools can be used to identify software faults and so you must demonstrate the use of diagnostic tools and techniques on an IT system. You must then analyse the results to identify possible software faults.

You should compile a summary for the Progress Academy SMT detailing the identified software faults and describe possible corrective solutions using terminology appropriate for a non-specialist to understand.

Your tutor will provide the resources to use for this task.

Pass	Merit	Distinction
P4: Select suitable tools and techniques to diagnose software faults		
P5: Use suitable tools and techniques to diagnose software faults	M3: Analyse the results of the diagnostic testing of software faults	
Evidence		
A narrated video, annotated pictures or a detailed report (this could be an extension to Task 2) or video demonstrating the diagnosis of software faults.		
This must include:		
<ul style="list-style-type: none">• an explanation and use of a range of software diagnostic tools;• the annotated results from diagnostic software;• analysis of the results with possible action that could be taken to correct the fault.		

Task 4: Recommend maintenance activities

(This task should take between 2 and 3 hours.)

Learning Outcome 4: Be able to recommend maintenance activities

Your task is to: investigate and plan a range of maintenance activities that can be performed on an IT system.

The SMT at Progress Academy has recognised the benefits of performing preventative maintenance on its IT system.

The SMT has asked you to design a maintenance routine that will ensure the integrity of the IT systems at Progress Academy.

You need to create a schedule of regular maintenance tasks that should be performed on the IT systems at Progress Academy. You must clearly explain how to carry out each maintenance activity and the benefit of completing each maintenance task.

There is a significant cost associated with conducting routine maintenance and so you should explain to the SMT at Progress Academy how routinely completed maintenance tasks could prevent hardware or software faults from occurring and/re-occurring. Your explanation should include examples of faults such as those that were identified through your previous diagnostic testing demonstrations.

Pass	Merit	Distinction
P6: Recommend appropriate preventative and routine maintenance activities		D2: Justify the selection of preventative and routine maintenance activities based on the results of the diagnostic tests on the hardware and software
Evidence		
A report, video tutorial or a blog. This must include: <ul style="list-style-type: none">• a range of maintenance activities which are both preventative and routine;• examples of appropriate usage of maintenance activities (preventative and routine);• both hardware and software maintenance activities (preventative and routine);• justification to support the choice of maintenance activities (preventative and routine).		

Evidence Checklist

OCR Level 2 Cambridge Technicals in IT Unit 9: Supporting IT functions

LEARNER NAME:

For Pass have you: (as a minimum you have to show you can meet every pass criterion to complete the unit)	Where can your tutor find the evidence? Give page no(s)/digital timings, etc.
P1: Described the features and functions of IT support within an organisation?	
P2: Generated a list of tools that can be used to aid in the diagnosis of given hardware faults?	
P3: Used suitable tools and techniques to diagnose hardware faults?	
P4: Selected a list of suitable tools and techniques that can be used to diagnose software faults?	
P5: Used suitable tools and techniques to diagnose software faults?	
P6: Recommended appropriate preventative and routine maintenance activities?	

For Merit have you:	Where can your tutor find the evidence? Give page no(s)/digital timings, etc.
M1: Explained the benefits of the IT support methods available to an organisation?	
M2: Analysed the results of the diagnostic testing of hardware faults?	
M3: Analysed the results of the diagnostic testing of software faults?	

For Distinction have you:	Where can your tutor find the evidence? Give page no(s)/digital timings, etc.
D1: Reported to the client about the hardware faults diagnosed.	
D2: Justified the selection of preventative and routine maintenance activities based on the results of the diagnostic tests on the hardware and software?	

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Alternatively, you can email us on **vocational.qualifications@ocr.org.uk**



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