



UNIVERSITY *of* CAMBRIDGE
International Examinations

Cambridge
International
AS & A Level

Example Candidate Responses (Standards Booklet)

Cambridge International AS Level
Applied Information and Communication Technology
9713



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**Applied Information and Communication
Technology**

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Cambridge International AS Level

Applied Information and Communication Technology

Syllabus code 9713

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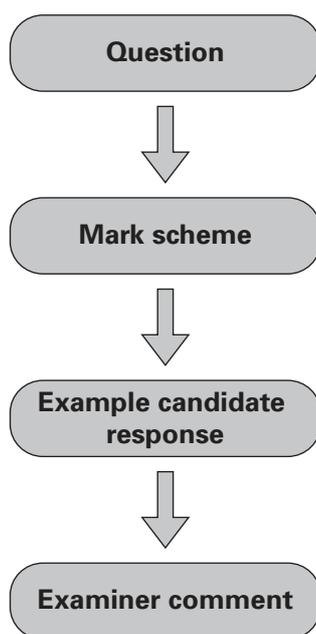
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INTRODUCTION

The main aim of this booklet is to exemplify standards for those teaching Cambridge International AS Level Applied ICT (9713), and to show how different levels of candidates' performance relate to the subject's curriculum and assessment objectives.

In this booklet a range of candidate responses has been chosen as far as possible to exemplify A, C and E grades. Each response is accompanied by a brief commentary explaining the strengths and weaknesses of the answers.

For ease of reference the following format for each paper has been adopted:



For Paper 1 each question is followed by a general comment which explains what the Examiners are looking for. For both Paper 1 and Paper 2 comments are given to indicate where marks were awarded, and how additional marks could have been obtained. In this way, it is possible to understand what candidates have done to gain their marks and what they still have to do to improve their grades.

Teachers are reminded that a full syllabus and other teacher support materials are available on www.cie.org.uk. Past papers and Principal Examiner Reports for Teachers and other teacher support materials are available on <http://teachers.cie.org.uk> – a password protected website available to teachers who are registered as a Cambridge School.

ASSESSMENT AT A GLANCE

AS Level

Paper 1	1 hour 15 minutes	Paper 2	2 hours 30 minutes
Written Candidates answer each question in the spaces provided on the question paper. Maximum mark: 80		Practical A number of tasks taken under controlled conditions. Candidates must use the most appropriate software and the most appropriate methods. Maximum mark: 120	
40% of total marks		60% of total marks	

PAPER 1

Scenario 1

Islamabad Translation Services is a company which employs a number of workers who translate documents between English and Urdu. Because much of the work is done on an individual basis, Faisal, the manager wants to allow the translators to work from home.

Shaista is a translator and she would like to work from home. She, like other workers, already has a standard PC with monitor, keyboard and mouse.

Question 1 (a)

Describe the personal characteristics that Shaista would need to have before Faisal would recommend that she be allowed to work from home.

Mark scheme

Question Number	Question (including any source details)	Part Mark
1 (a)	<p>Three from:</p> <ul style="list-style-type: none"> Be well motivated Have good communication skills Have good self-discipline/doesn't require supervision Have good time management skills/can meet deadlines Be well organised 	[3]

General comment

Grade A candidates would be expected to gain full marks for this question. Grade C candidates would be expected to gain at least two marks and grade E candidates would be expected to gain one mark.

Example candidate response – grade A

1 (a) Describe the personal characteristics that Shaista would need to have before Faisal would recommend that she be allowed to work from home.

Shaista must have good communication skills, good self discipline, good time management & she should be well motivated as well.

Examiner comment

The candidate provided three good answers:

- Have good communication skills.
- Have good self-discipline.
- Have good time management.

Example candidate response – grade C

- 1 (a) Describe the personal characteristics that Shaista would need to have before Faisal would recommend that she be allowed to work from home.

Shaista should have good communication skills. She should be able to translate well from Urdu to English and from English to Urdu. She should be committed to her work. & She should have good organisational skills. She should be able to keep up ~~with~~ ~~with~~ track of her own progress while working. [3]

Examiner comment

The candidate gave two personal characteristics that of having good communication skills and being well organised. Her middle answer relating to her ability to translate well would be needed for her job whether she worked at home or in an office.

Example candidate response – grade E

- 1 (a) Describe the personal characteristics that Shaista would need to have before Faisal would recommend that she be allowed to work from home.

Shaista would need to have appropriate equipment. She would also need to have appropriate softwares eg. word processing software to ~~manipulate~~ translate documents and input data into computer. She would also need to have good time management skills and should know how ~~to~~ to operate the system. [3]

Examiner comment

The candidate concentrated on hardware and software requirements rather than Shaista's personal characteristics. One mark, however, was awarded for the mention of time management skills.

Question 1 (b)

Describe, including their uses, the extra hardware that each worker will need to have in order to work from home.

Mark scheme

Question Number	Question (including any source details)	Part Mark
1 (b)	<p>Three from:</p> <p>Broadband connection/router to connect to the internet... ...to send emails to company/manager(Faisal) A fax machine to send/receive (translated) documents/documents (that need translating) A landline/mobile phone to communicate with Faisal/other translators A printer to print documents... ...for faxing ...for translating (large documents)/after translating A scanner to input documents ready for translation/that have been translated... ...so they can be sent as email attachments Video conferencing hardware to communicate with other workers</p>	[3]

General comment

Grade A candidates would be expected to gain full marks for this question. Grade C candidates would be expected to gain at least two marks and grade E candidates would be expected to gain one mark. The question required candidates to be able to describe the hardware and their uses.

Example candidate response – grade A

(b) Describe, including their uses, the extra hardware that each worker will need to have in order to work from home.

Printer^(Inkjet) is necessary to print out documents ✓ a modem to connect to the internet & be able to send emails to colleagues, & the ~~video~~ videoconferencing equipment like the webcam, microphone e.t.c to be able to videoconference with her colleagues. ✓

Scanner to retrieve important documents & save it to a folder in the computer.

(a trackball) for those disabled) ✓ [3]

Examiner comment

The candidate gained full marks for describing the uses of three items of hardware which would enable each worker to work from their home:

- A printer to print out the documents.

- A modem to connect to the internet to be able to send emails to colleagues.
- Two items of hardware required for video conferencing – a web cam and microphone.

Although the candidate did not mention broadband they were allowed the mark as they had expanded upon how they would use the internet.

Example candidate response – grade C

(b) Describe, including their uses, the extra hardware that each worker will need to have in order to work from home.

- Modem: This would provide them with access to the Internet hence their e-mails so they can communicate with each other.
- Mobile phone: This would allow instant contact between co-workers.
- Fax machines: Original documents can be shared between co-workers without having to type them out, and typing urdu can be a tough job if it is out of routine. [3]

Examiner comment

The candidate described the use of:

- A modem to access the internet to send emails to their colleagues.
- A mobile phone to communicate with the other translators.

Again the candidate did not mention broadband but they were allowed the mark as they had expanded upon how they would use the internet.

Example candidate response – grade E

(b) Describe, including their uses, the extra hardware that each worker will need to have in order to work from home.

- 1] each worker must have a modem to access the internet to be able to send their work and receive tasks online.
- 2] A printer to print translated documents after finishing her task.
- 3] USB or Memory stick, to transfer tasks & work files to their PCs.

[3]

Examiner comment

The candidate did not mention broadband and failed to mention how the work would be sent using the internet. A mark was gained for the use of the printer to print out translated documents. The mention of a memory stick was not relevant to the scenario of working from home as the use of such a device would need them to travel back and forwards to the office.

Question 2 (a)

Faisal wants to remain in contact with his workers and has considered regular video conferences for this. He feels this would also enable him to check on their work.

Describe the extra hardware which Faisal would have to provide for each worker to take part in a video conference.

Mark scheme

Question Number	Question (including any source details)	Part Mark
2 (a)	<p>Three from:</p> <ul style="list-style-type: none"> Webcam to input video Webcam so that images of each worker can be transmitted/sent Microphone to input voices Microphone so that workers can speak <u>with each other/Faisal</u> Speakers/headset to output voices Speakers in order to hear other workers/Faisal 	[3]

General comment

Grade A candidates would be expected to gain full marks for this question. Grade C candidates would be expected to gain at least two marks and grade E candidates would be expected to gain one mark. This question asked candidates to describe the hardware, so just naming the hardware was not enough.

Example candidate response – grade A

2 Faisal wants to remain in contact with his workers and has considered regular video conferences for this. He feels this would also enable him to check on their work. E

(a) Describe the extra hardware which Faisal would have to provide for each worker to take part in a video conference.

Faisal would need:-

- 1) a webcam - this will be connected at the top of the monitor, so and will input moving pictures. ✓
- 2) Microphone - this will input the voice, so members in a conference can talk to each other. ✓
- 3) Speakers to hear the members in the conference talking. ✓ [3]

Examiner comment

The candidate gave three good descriptions of a webcam, a microphone and speakers.

Example candidate response – grade C

2 Faisal wants to remain in contact with his workers and has considered regular video conferences for this. He feels this would also enable him to check on their work.

(a) Describe the extra hardware which Faisal would have to provide for each worker to take part in a video conference.

video cameras ^{or webcams} so that participants are able to see each other while in conference
 microphones so that workers are able to speak and give their opinions about different views.
 speakers so that workers are able to hear the participants who are speaking.

[3]

Examiner comment

The candidate gave good descriptions of microphones and speakers but the description of a webcam lacked appropriate detail. An accurate description of the hardware was required here. Webcams are used to input video not to see other participants.

Example candidate response – grade E

2 Faisal wants to remain in contact with his workers and has considered regular video conferences for this. He feels this would also enable him to check on their work.

(a) Describe the extra hardware which Faisal would have to provide for each worker to take part in a video conference.

1] A modem to access the internet to log on any kind of electronic messenger that would ease the video conferencing procedure.
 2] A web cam to ~~(be able to see the work)~~ help the workers see him & for him to see them.
 3] A head set that includes a microphone and speakers to be able to hear one another.

[3]

Examiner comment

The candidate mentioned a modem but this was a required answer for question 1(b) and so it would be difficult to give credit for it twice. In the event the candidate did not mention broadband which would be essential for a video conference and the description of its use lacked any substance.

Question 2 (b)

Explain why Faisal would use a video conference rather than a phone conference.

Mark scheme

Question Number	Question (including any source details)	Part Mark
2 (b)	<p>Two from:</p> <p>You can see the <u>facial expressions/body language</u> of other participants.</p> <p>It is cheaper to <u>set up/operate/organise</u> than a phone conference.</p> <p>You can see/amend/share documents that you want to discuss with each other.</p> <p>Easier to identify <u>whose turn it is/who wants to contribute next</u>.</p>	[2]

General comment

Grade A candidates would be expected to gain both marks for this question, whereas grade C and E candidates would both be expected to gain one mark.

Example candidate response – grade A

(b) Explain why Faisal would use a video conference rather than a phone conference.

On a video conference Faisal will be able to
 and hear see his workers while in a phone conference he
 can hear only. Faisal can also judge the reactions
 of people by seeing his workers. They can also
 share documents and more [2]

Examiner comment

This response was a good example of how examiners do not penalise candidates whose initial answers are insufficient to meet the marking criteria. It was not until the last three lines of the answer that the candidate made two good points equivalent to the following mark points:

- You can see the facial expressions/body language of other participants.
- You can share documents that you want to discuss with each other.

Example candidate response – grade C

(b) Explain why Faisal would use a video conference rather than a phone conference.

A video conference would be more useful as if he will be able to see his staff and they may be able to physical show him the work they produce. A phone conference is also less personal and it may not have as much effect. [2]

Examiner comment

This candidate was quite vague in the response made. Just seeing his staff is not enough to gain a mark and the phone conference being less personal also did not warrant a mark. The benefit of the doubt was given for the answer relating to seeing documents.

Example candidate response – grade E

(b) Explain why Faisal would use a video conference rather than a phone conference.

In video conferencing workers would be able to interpret body language. Work on documents can take place collaboratively online. Can see each other at the same time. [2]

Examiner comment

The candidate gained a mark for mentioning being able to see their expressions. The second point about amendments did not refer specifically to documents and so could not be given any credit.

Scenario 2

An Egyptian book publishing company, Cairo Press, is looking to expand its operations. They wish to increase their advertising to extend their customer base. Their preferred method of advertising would be using a website, though they have the ICT facilities necessary to use a variety of methods.

If they do create their own website they will ask Ali, one of their most talented workers, to produce it. However, they are concerned about his lack of organisational skills.

Question 3 (a)

Describe how time management software would help Ali to plan the creation of the website.

Mark scheme

Question Number	Question (including any source details)	Part Mark
3 (a)	<p>Four from:</p> <p>Computer/software Helps to ensure that project is completed within <u>timescale and budget</u>. Organises meeting times. Provides alerts regarding imminent start of meetings. Can organise Ali's tasks. Makes it possible to ensure members of a team have equitable workloads. Provides a critical path analysis. Identifies project progress. Helps daily and weekly planning. Can act as a stopwatch device. Reminds the user how long they have been working on that task/how long left. Enables Ali to see what emphasis is being placed on each task. Can be used to produce Gantt charts.</p> <p>Gantt charts Help to plan out the tasks that are involved in a process. Graphically represent progress in projects. Are used to plan the whole process including parallel and sequential activities. Used to arrange tasks so that parallel tasks finish at the same time.</p> <p>Calendar Software has a Calendar function. Enables Ali to keep a record of his appointments/meeting times. Advises Ali of/Ali could easily see any clashes (of meetings scheduled for the same time and date). Public calendar identifies a suitable time for a meeting of all members of a team.</p>	[4]

General comment

Grade A candidates would be expected to gain full marks for this question. Grade C candidates would be expected to gain at least three marks and grade E candidates would be expected to gain at least two marks.

Example candidate response – grade A

- 3 (a) Describe how time management software would help Ali to plan the creation of the website.

Time management is to do work at the most appropriate period of time, with the most efficient ways of completing tasks, but with the highest quality.

Time management software would enable Ali to use a calendar function, this function would tell him how ~~long~~ ~~to~~ ~~to~~ to plan out days for his tasks, and the software could also contain a stop watch device to tell him how long he is spending on each task to create the website. [4]

The software is also capable of finding Ali the critical path, this critical path finds the most optimum time needed to finish individual tasks.

The software can also produce gantt charts, these charts show the tasks that are needed to complete a process. And can show which activities are parallel or sequential.

Examiner comment

The candidate gained full marks for making several points which matched, or being very close to mark scheme points by stating that time management software:

- Would provide a calendar.
- Can act as a stopwatch device.
- Reminds the user how long they have been working on that task.
- Provides a critical path analysis.
- Can be used to produce Gantt charts.
- Are used to plan the whole process including parallel and sequential activities.

It was unfortunate for the candidate that there were only four marks available as six good points were made.

Example candidate response – grade C

- 3 (a) Describe how time management software would help Ali to plan the creation of the website.

Ali would need to manage his time correctly by using a calendar function to see which days he can do certain tasks or see how many meetings there are. He could also use a stopwatch application which reduces the time he spends on the tasks (as he doesn't get distracted). Moreover he could use spreadsheet processing software to produce Gantt charts which allow him to see what tasks can be done first and which later.

[4]

Examiner comment

The candidate described the calendar function, acting as a stopwatch device and the production of Gantt charts. These were the only points the candidate made.

Example candidate response – grade E

- 3 (a) Describe how time management software would help Ali to plan the creation of the website.

Will help him to organize meetings. can keep track of appointments. on a PDA or a mobile phone. Meeting times can be arranged. can make changes to appointment things. can know which times he will be busy and the free time he could use to create the website.

Examiner comment

The candidate made two good points which fitted the mark scheme:

- Organises meeting times.
- Enables Ali to keep a record of his appointments.

Unfortunately the rest of the answer was a general answer which did not specifically relate to further points about time management software. The next point about arranging meeting times had already been given credit in the candidate's opening statement. The point about changing appointment times had already been covered by the first two points the candidate had made and was therefore just repeating what had already been written. The last sentence was too vague to be credited.

Question 3 (b)

Describe, giving the uses of each, six different types of software which Ali could use to create the website.

Mark scheme

Question Number	Question (including any source details)	Part Mark
3 (b)	<p>Six from:</p> <p>Web authoring package to create web site</p> <p>Word-processing package for typing text /tables etc.</p> <p>DTP for creating pages for website</p> <p>Spreadsheet to create statistical tables/graphs for inclusion in the website</p> <p>Database to create files of data for inclusion in the website</p> <p>Communications software to connect to Internet</p> <p>Web browser to see how the web site appears to users</p> <p>Software for editing scanned/downloaded images</p>	[6]

General comment

Grade A candidates would be expected to gain at least five marks for this question. Grade C candidates would be expected to gain at least four marks and grade E candidates would be expected to gain at least two marks. As well as naming the type of software package it was expected that the candidate would give its use within the scenario.

Example candidate response – grade A

(b) Describe, giving the uses of each, six different types of software which Ali could use to create the website.

- ① Web authoring package → to design web pages.
- ② Web browsing software → to browse the internet.
- ③ Spreadsheet software → to produce graphs and charts to insert in webpage.
- ④ Desktop Publishing software (DTP) to design layout & help adding pictures of page.
- ⑤ Graphics software → to help in editing pictures (cropping, filling colours - ..) for them to be placed in website.
- ⑥ Word Processing Software → to type in & edit text to be added to the web page.

[6]

Examiner comment

The candidate made five good points by naming the software and giving its use. The only answer which could not gain credit was web browsing software as the candidate had failed to say that it would be used to see how the web site appears to users.

Example candidate response – grade C

(b) Describe, giving the uses of each, six different types of software which Ali could use to create the website.

A web authoring package to create the website ✓
 DTP software to create webpages ✓
 Presentation software to make presentation and upload them on to the website ✓
 Publishing software to design webpages REP
 HTML can be used directly to create a website ✓
 word-processing software to write code for creating the website. BOD

Examiner comment

The candidate made three good points:

- Web authoring package to create the web site.
- DTP for creating pages for website.
- Presentation software to make presentations for uploading to the website.

A further mark was awarded as the candidate was given the benefit of the doubt for writing that word processing software would be used to write the codes for creating the website.

However, Publishing software (which was a repeat of DTP) and HTML which is a language, not a type of software could not be awarded any marks.

Example candidate response – grade E

(b) Describe, giving the uses of each, six different types of software which Ali could use to create the website.

All out Software available to Ali
 - Java software. ✗
 - Http (this uses codes) ✗
 - Dreamweaver ✗
 - Pearleweb editor ✗
 - Notepad (uses coding) ✗
 - HTML Editor (uses html coding) ✗

Examiner comment

Although a grade E candidate would be expected to gain at least two marks for this question, it was felt necessary to include this candidate response as it was typical of those candidates who did not score any marks for this question and a guide to centres for their candidates to avoid this type of response. In essence, the response shown did not answer the question asked for the following reasons:

- The question specifically asked for a description whereas the candidate's answers were far too brief and were often the equivalent of one word answers.
- The question also specifically asked for a use of each type of software which the candidate appeared to ignore.
- Many of the candidate's answers were brand names which are not allowed by the syllabus.

Question 3 (c)

Discuss the advantages and disadvantages to a company of advertising on somebody else's website rather than creating their own website.

Mark scheme

Question Number	Question (including any source details)	Part Mark
3 (c)	<p>Five from:</p> <p>It is cheaper than paying/employing a programmer/designer to create/maintain it.</p> <p>A Pop-up instantly grabs the attention of the customer.</p> <p>Pop-ups may create unhappy customers who may avoid that company in future/will have poor impression of the company/will tend to ignore them.</p> <p>Customers will use pop-up blocking (software) which doesn't allow them to appear.</p> <p>Pop-unders are small windows placed underneath the web page being accessed.</p> <p>Don't appear to users until they close the page they are working on.</p> <p>Are not removed by pop-up blocking.</p> <p>The customer regards pop-unders as less of an inconvenience than pop-ups.</p> <p>Pop-ups and pop-unders can both be linked to the organisation's own website.</p> <p>Can make their own website better suited to their needs.</p> <p>Own website has shorter delay in updating/improving advertising.</p> <p>Company doesn't have as much control over the host's website as it would over its own.</p> <p>May be so many other companies' advertising on host website the company's may not be seen/not as much advertising can be used/limited space available.</p> <p>More people may see it if it's on someone else's website.</p> <p>One mark is available for reasoned conclusion.</p>	[5]

General comment

Grade A candidates would be expected to gain at least four marks for this question. Grade C candidates would be expected to gain at least three marks and grade E candidates would be expected to gain at least two marks.

Example candidate response – grade A

(c) Discuss the advantages and disadvantages to a company of advertising on somebody else's website rather than creating their own website.

If they use pop up, which grabs user attention, but user could have pop up block software, so it can't be appeared. they could use pop under, which is appeared below which is can't be blocked by pop up block software. but it may upset the user, and so he won't use these product. also they could put their company name in online directory, which is cost more money. I do think they should other website rather than own website, as the workers will need to be retrained, and which costly.

[5]

Examiner comment

The candidate was given credit for matching or nearly matching the following mark points:

- More people may see it if it's on someone else's website.
- A Pop-up instantly grabs the attention of the customer.
- Pop-ups may create unhappy customers who may avoid that company in future/will tend to ignore them.
- Customers will use pop-up blocking (software) which doesn't allow them to appear.

The first point about it being cheaper omitted the key point about how it would be cheaper. Unfortunately the candidate spent a lot of space writing about customers ignoring the advertising and avoiding the website in future which was regarded as the same point about customers being negative about this form of advertising.

Example candidate response – grade C

- (c) Discuss the advantages and disadvantages to a company of advertising on somebody else's website rather than creating their own website.

It would cost them less money as they don't have to ~~hire a website developer~~ have a website of their own. If they advertise on a popular website many people will be able to see their advertisements. As it is not so difficult to advertise on other people's website they might not need to hire a website developer. Advertisements could appear as pop-ups. People might get irritated and block pop-ups. The website owner might not like the fact that other people are advertising on his website and he might remove that advertisement from his site. The company could reach [5] a world wide audience easily. The company would be able to compete with larger businesses.

Examiner comment

The candidate first of all mentioned costing less money but it was not until later in the answer that an explanation how was given. The point about more people may see it if it's on someone else's website was made but was then repeated in the final sentence. Pop-up blocking was also written about. The mark points met were therefore:

- More people may see it if it's on someone else's website.
- Customers will use pop-up blocking (software) which doesn't allow them to appear.
- It is cheaper than paying/employing a programmer/designer to create/maintain it.

Example candidate response – grade E

- (c) Discuss the advantages and disadvantages to a company of advertising on somebody else's website rather than creating their own website.

Information is in the hands of another company therefore they are dependant on the company because that company may choose to send this information to competitors. The other company may not be as secure and discrete with the data. However if you won't have to pay technical staff to create and maintain your site. If it's just a small advertisement then it's better to have it on someone else's website as it is very expensive to create your own website and a very long process. The company may choose to put the advertisement [5] wherever they want and may be able to charge ^{much} larger amounts than the actual amount.

Examiner comment

The candidate wrote a lot in the early part of the answer about companies passing on information which did not answer the question. Later on in the answer the candidate wrote more but only really made the points:

- It is cheaper than paying/employing a programmer/designer to create/maintain it.
- May be so many other companies' advertising on host website there will be limited space available.

These points were just written about at great length without making any new points.

Question 3 (d)

Give the advantages of using flyers to advertise the company locally.

Mark scheme

Question Number	Question (including any source details)	Part Mark
3 (d)	<p>Four from:</p> <p>Can be produced using own PCs and printer.</p> <p>Flyer doesn't take very long to produce.</p> <p>You can distribute them so that they only go to the people you want to see them.</p> <p>It is a cheaper method than creating a web page/paying a company to advertise on their website/advertising on local radio/television.</p> <p>Prospective customers may not have computers/internet/regular electricity supply.</p> <p>You can target specific groups/Can't guarantee all the intended audience would see a poster/web site.</p>	[4]

General comment

Grade A candidates would be expected to gain at least three marks for this question. Grade C candidates would be expected to gain at least two marks and grade E candidates would be expected to gain at least one mark.

Example candidate response – grade A

(d) Give the advantages of using flyers to advertise the company locally.

Flyers are cheaper to produce than creating a website or creating posters. Flyers can be printed at home and then make copies of. Flyers target a very specific audience in a community as numerous flyers can be handed out. Posters do not reach as many people as flyers do because fewer are printed. In addition, posters can be graffiti'd on.

Flyers reach all people in a community if distributed universal. The company would have to rely on all customers having computers at home if they were using a website.

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[4]

Examiner comment

The candidate made three good points equivalent to the following mark scheme answers:

- It is a cheaper method than creating a web page.
- You can target specific groups.
- Prospective customers may not have computers.

The candidate was given the benefit of the doubt over targeting despite the misunderstanding of the question. It is not the quantity that enables groups to be targeted but the fact that because people are distributing them to specific people then the distributors can generally ensure that only the target group receive them. The answer also contained a statement about posters not reaching as many people as flyers because fewer are printed. This is not necessarily true as it could be argued that a lot of posters could be produced and displayed so that they cover as large an area than could be achieved by distributing flyers. The argument about graffiti was not expanded in to why the candidate considered this to be an advantage of flyers.

Example candidate response – grade C

(d) Give the advantages of using flyers to advertise the company locally.

Fliers are leaflets which promote a firm or company. It would benefit the company because fliers are most effective in small area targeted. It is a cheaper method than using ad boards or websites. Websites can only be accessed by internet users but fliers have no requirements. Any one can read it and find out about the firm.

[4]

Examiner comment

The candidate made a very generalised start to the answer, writing that flyers are most effective in a small area targeted without saying how this is the case. The candidate went on to write that it was cheaper than creating websites and flyers would not need customers to have a computer.

Example candidate response – grade E

(d) Give the advantages of using flyers to advertise the company locally.

Flyers can get the ~~person's~~ person's attention as it could be on a windshield of the person's car. It could be distributed in a particular area so everybody would read it. Can make as much copies as needed. Initial cost of flyers are lower compared to website. It could be of any size, shape or colour. It is easy to make compared to other methods.

Examiner comment

The candidate made a number of vague points without specifically giving any of the points on the mark scheme. Comments such as 'everybody would read it' whilst not being a specific mark point is not necessarily true or necessary. Many would be thrown away without reading them. There was no mention of targeting specific groups. Can make as many copies as needed is not an advantage. 'Initial cost of flyers is lower compared to website' was worth a mark. 'It could be of any shape or colour' is not a particular advantage. 'Is easy to make' is not worth a mark.

Scenario 3

Sellafield food shops is a national chain of supermarkets in the UK. They have recently implemented a website for their customers, who can now order their shopping online and have it delivered to their home.

They have also created an overseas call centre so that if customers have problems with the website they can contact the company to fix these problems. The management of the call centre is to introduce shorter working periods (shifts) due to pressure from the workers.

Question 4 (a)

Describe the features of a well-designed online shopping website.

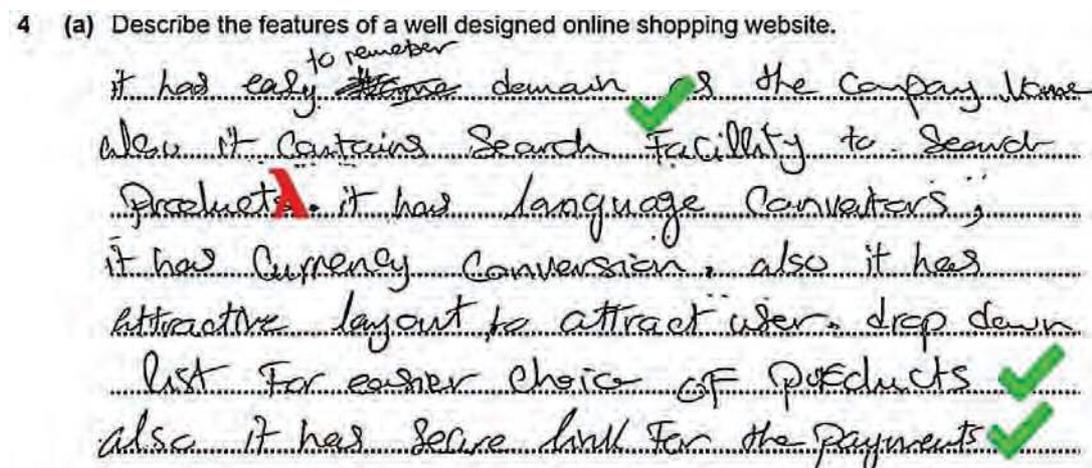
Mark scheme

Question Number	Question (including any source details)	Part Mark
4 (a)	<p>Four features from:</p> <p>An easy-to-remember domain name. A secure method of accepting payments. Descriptions/pricing/photos of goods. Usernames and passwords to make the system secure. Customers are able to contact shop directly via e-mail. Allows customers to make use of their orders stored in a database. Allows customers to see their order and maintain their own accounts. A shopping basket to hold goods you are going to buy. Prospective customers should be able to use a temporary shopping basket if they are a 'guest'. Permanent shopping basket if they are returning customers. Searches and advanced searches can be carried out easily. Allow customers to progress smoothly to the checkout/navigate from category to category easily. Orders can be tracked. Wishlists which enable users to store the goods they might want to buy in the future. 'People who bought A also bought B' recommendations.</p>	[4]

General comment

Grade A candidates would be expected to gain full marks for this question. Grade C candidates would be expected to gain at least two marks and grade E candidates would be expected to gain at least one mark.

Example candidate response – grade A



Examiner comment

The candidate gained marks for the following descriptions of features:

- An easy-to-remember domain name (first sentence).
- Searches and advanced searches can be carried out easily (mention of drop down lists for easier choice of products – the second sentence of the answer would not gain a mark on its own as it did not say easily).

- A secure method of accepting payments.

The candidate was not given credit for language conversion or currency conversion as the scenario was specific to the UK where there is only one currency. In any event it was felt that a **well-designed** on line shopping website would ask customers for their preferred language and also would display prices of individual items in the various currencies, such as Euros, as and if necessary.

Example candidate response – grade C

- 4 (a) Describe the features of a well designed online shopping website.

A well designed online shopping website
 will be easy to navigate. X
 It will display pictures of the products ✓
 as well as their prices and names
 It will be able to save food shopping lists ✓
 It will have to be well designed with
 a friendly user interface.
 It will have to be safe and trustworthy.

[4]

Examiner comment

The candidate wrote about 'easy to navigate' which was too general. The answer needed to say from category to category or a similar phrase. Marks were awarded for the second and third points which matched the mark scheme points:

- Descriptions/pricing/photos of goods.
- Allows customers to make use of their orders stored in a database (the candidate was given the benefit of the doubt for writing 'it will be able to save food shopping lists')

However, the candidate then reverted to general answers such as a 'well designed with a friendly user interface' and it being 'safe and trustworthy'.

Example candidate response – grade E

4 (a) Describe the features of a well designed online shopping website.

Up-to-date information about the products they are selling. ~~Prices~~ ~~Prices~~ 

Prices are updated regularly. website will be organized well and will look attractive to grab the attention of many customers.

Easy method for payment online, so that customers can pay easily. A variety of products made available to customers.

[4]

Examiner comment

The candidate gained a mark for writing that information about each product would be needed. The remaining points made by the candidate were too vague to be considered as relating to any points on the mark scheme. Prices being updated regularly is not a specific feature of a website but more to do with its maintenance. 'Organised well', 'look attractive to grab the attention of many customers', 'easy method of payment' lacked the specific detail required at this level. 'A variety of products' is more to do with the shop itself rather than the website.

Question 4 (b)

Explain the security issues involved with such a website.

Mark scheme

Question Number	Question (including any source details)	Part Mark
4 (b)	<p>Three from:</p> <p>The customer's personal data/payment details can be intercepted by a hacker.</p> <p>Personal data/payment details could be used by the hacker to defraud the shop.</p> <p>Personal data/payment details could be used by the hacker to defraud the customer.</p> <p>Personal data/payment details could be used to log on to the shop's computer system and order a large number of products....</p> <p>.....products can be dispatched to another address other than the credit owner's.</p> <p>The hacker can sell on the goods.</p> <p>Credit card details can be used to make purchases at a number of other shops..</p>	[3]

General comment

Grade A candidates would be expected to gain full marks for this question. Grade C candidates would be expected to gain at least two marks and grade E candidates would be expected to gain at least one mark.

Example candidate response – grade A

(b) Explain the security issues involved with such a website.

As payment is paid through credit card by customers so there is a possibility that credit card details are intercepted by hackers which could defraud both the customer and shop. Another issue is phishing. A fraudster might ~~redirect~~ ^{customer's} This is when a fraudster redirects the traffic on the shopping website to his own website which looks quite similar. Any transaction made would result in losing money for customers. [3]

Examiner comment

The candidate gained three marks for a very succinct answer. The three marking points made were:

- The customer's personal data/payment details can be intercepted by a hacker.
- Personal data/payment details could be used by the hacker to defraud the shop.
- Personal data/payment details could be used by the hacker to defraud the customer.

These were given in the first two and a half lines of the answer.

Example candidate response – grade C

(b) Explain the security issues involved with such a website.

The security issues are that users have to submit their personal data over the internet. Some customers might be worried about this as ~~hackers~~ ^{hackers} can gain unauthorized access to the information. They might amend, alter, or delete the data. There is a risk of fraud that the data might be passed on to third party organisations. [3]

Examiner comment

This candidate unlike the grade A candidate took six lines just to say that personal details could be intercepted by a hacker. Despite not stipulating whether the customer or the bank would be defrauded, the candidate was given the benefit of the doubt and awarded a further mark for showing understanding that the hacker would misuse the data for fraudulent purposes.

Example candidate response – grade E

(b) Explain the security issues involved with such a website.

Such a website would allow individuals to sign in using their user name and password, thus giving them access to their account information. Such websites are highly secure. Information is encrypted before it is sent. Hackers may intercept the ~~data~~ information, but would not be able to use it as it is cipher text. There are firewalls to prevent information from being intercepted. A hacker would be able to decipher a message if only they had the encryption key. [3]

Examiner comment

As with the grade C candidate this answer basically consisted of just the one point about personal details being intercepted. Writing about encryption and firewalls was not answering the question. These are methods of prevention not issues themselves.

Question 4 (c)

Discuss whether customers should feel concerned about using this online shopping system.

Mark scheme

Question Number	Question (including any source details)	Part Mark
4 (c)	<p>Six from:</p> <p>Personal data are encrypted when they are transferred over the Internet....</p> <p>...If a hacker intercepts data is unable to decipher the meaning of the data.</p> <p>...The data can only be decoded if the receiving network server has the correct encryption key.</p> <p>More common for fraudsters to use methods such as phishing, pharming.</p> <p>More common to attach spyware in order to obtain customer data.</p> <p>If customer's credit or debit card is used fraudulently, in many countries the card company must refund them.</p> <p>Customer's have consumer rights such as refunds for faulty goods.</p> <p>Generally, customers only ever use reputable sites.</p> <p>Hackers can intercept personal data/payment details.</p> <p>Could be a fraudulent website.</p> <p>You can't check the quality of the goods/you can't be sure the goods are in stock/goods don't arrive/are of the wrong quality/wrong goods delivered.</p> <p>The order confirmation may be delayed/not be received.</p> <p>Employees who have access to the payment details must sign a duty of confidence document.</p> <p>One mark is available for reasoned conclusion.</p>	[6]

General comment

Grade A candidates would be expected to gain at least four marks for this question. Grade C candidates would be expected to gain at least three marks and Grade E candidates would be expected to gain at least two marks.

Example candidate response – grade A

(c) Discuss whether customers should feel concerned about using this online shopping system.

Most people fear that their personal information (username, password, credit card number) may be hacked and misused. This is very rare nowadays, because reputed websites are secured with firewalls at every junction where data is passed from the customer's PC to the server and to the website's database. Furthermore, even if someone manages to hack the information, it is encrypted which means that the hacker can gain no benefit from it, unless he has the decryption code.

There are chances of phishing, where fraudsters make their own websites which look just like the original one, hence may be used by customers. In this case, customers should always ensure that the website they are using is an authorised one. As long as the website is authorised, well-known and reputed, giving personal information should not be a concern. [6]

Examiner comment

The candidate made four good points but also made just a general point about firewalls without saying why the use of these should allay the customer's concerns other than websites are secured, which is too vague at this level. The candidate spent the last paragraph stating that the customer should avoid using websites that may be fraudulent without actually writing that this is what customers generally do.

The points met were:

- Hackers can intercept personal data/payment details.
- Personal data are encrypted when they are transferred over the internet.
- The data can only be decoded if the receiving network server has the correct encryption key (the candidate was given the benefit of the doubt when saying a hacker would not be able to use the data without the decryption code).
- It could be a fraudulent website

Example candidate response – grade C

- (c) Discuss whether customers should feel concerned about using this online shopping system.

Data given by the customers is encrypted and code in the form that only the firm and the customers can understand it. But sometimes hackers can crack these codes and get the information they want. Customers submit their billing address and credit card numbers, which if found out by anyone, can result in robbery. These websites mainly have anti hacking fire walls which do not allow a hacker to break in. ~~So this can help the~~ So this ~~does~~ online shopping might not worry some. Customers though are afraid of fraud that their information might be passed on to others ~~for~~ for some other purpose. [6]

Customers might also fear that the goods delivered may be poor quality than shown on the website.

~~Customers~~ Customers might fear that the goods may be delivered late, thus they worry about the system.

Examiner comment

The candidate made three points in a very lengthy answer. These were:

- Personal data are encrypted when they are transferred over the internet (the candidate did not mention personal details at the point that encryption was mentioned but was given the benefit of the doubt because mention of billing address and credit card number came later).
- Hackers can intercept personal data/payment details.
- Goods don't arrive/are of the wrong quality.

The last point about late delivery was felt to be the same idea as the point above and not the same as 'order confirmation may be delayed'. The point about firewalls was felt to be too vague at this level. At A Level,

candidates should know that a firewall doesn't necessarily prevent hacking as, in simple terms, it is the computers that are being denied access to a network. Hackers can, of course, still gain access by hacking into a computer which is acceptable to the network server and consequently forwarding a request to the network through that computer.

Example candidate response – grade E

(c) Discuss whether customers should feel concerned about using this online shopping system.

Customers are afraid of using online shopping, due to possibilities of data being intercepted by hackers, username and passwords being stolen. But they should not feel concerned, as, when they send data containing their personal details, it is encrypted & changed from plain text to cipher text, once it reaches the shop server, it is decrypted, decreasing the possibility of intercepting the data.

Examiner comment

The candidate made two good points about hackers intercepting personal data but argued that such data is encrypted. The candidate mistakenly thought that encryption prevented data from being intercepted.

Question 5 (a)

Describe the features of Computer Telephony Integration (CTI) software which will be used in the call centre.

Mark scheme

Question Number	Question (including any source details)	Part Mark
5 (a)	<p>Five from:</p> <ul style="list-style-type: none"> Phone calls are processed using interactive voice response (IVR) software. Does not require a human response. Automatic services such as giving account information can be accessed by the caller. CTI allows computers to direct the phone call to appropriate operator. Calls can be queued/put on hold. Combines the data and voice input to the system. Displays the caller's number/number dialled. Multiple dialling techniques/fast dial/ preview/predictive dial. Description of first-party call control. Description of third-party call control. 	[5]

General comment

Grade A candidates would be expected to gain at least four marks for this question. Grade C candidates would be expected to gain at least three marks and Grade E candidates would be expected to gain at least two marks.

Example candidate response – grade A

- 5 (a) Describe the features of Computer Telephony Integration (CTI) software which will be used in the call centre.

CTI is used to integrate all parts of the system together. It combines voice and data input to the system. It displays features like the number dialled, caller's number. It also directs calls to the appropriate operator having the appropriate expertise. CTI software in this scenario as it is a large call centre so CTI will take the form of third party control. In this CTI helps in a way that it allows supervisors to intervene if a call proves too difficult for the operator to handle.

Examiner comment

The candidate made four good points:

- Combines the data and voice input to the system.
- Displays the caller's number/number dialled.
- CTI allows computers to direct the phone call to appropriate operator.
- Allowing supervisors to intervene if the call proves too complex for the operator to handle. (A feature of third-party call control.)

Example candidate response – grade C

- 5 (a) Describe the features of Computer Telephony Integration (CTI) software which will be used in the call centre.

It is used to combine voice and data and is used to integrate all aspects of the system together. It helps to show the caller's number and could direct the call to an appropriate operator. It helps to receive calls from telephony server. It could be used for automated service which can help up hold information about caller appears on his monitor.

Examiner comment

The candidate made three good points:

- Combines the data and voice input to the system.
- Displays the caller's number/number dialled.
- CTI allows computers to direct the phone call to appropriate operator.

The candidate's point 'it could be used for automated service' was too vague and the final point about displaying information about the caller was rather vague. Information about the caller such as the phone number had already been covered and it was unclear whether the candidate was referring to other information.

Example candidate response – grade E

- 5 (a) Describe the features of Computer Telephony Integration: (CTI) software which will be used in the call centre.

It receives uses a modem to connect to the internet and since it is in a computer the internet is used to process the calls and the phone number is shown on the computer screen. There is a hold button, a call button and a rejecting button to accept or reject calls. The software is usually incorporated with hardware devices such as a headset.

Examiner comment

The candidate was confused over how calls are handled by a CTI system and referred to the use of the internet. However, the candidate was given the benefit of the doubt over displaying the caller's number and calls being put on hold to gain two marks. The mention of a 'rejecting button' and hardware associated with the system did not attract any marks.

Question 5 (b)

Describe some of the health and safety problems which might occur because of the call centre operators' use of computers.

Mark scheme

Question Number	Question (including any source details)	Part Mark
5 (b)	<p>Four from:</p> <p>Staring at a computer screen <u>all day</u> can cause problems with one's sight.</p> <p>Typing at a keyboard <u>continuously</u> can cause RSI.</p> <p>Gripping a mouse and <u>repetitive</u> clicking can cause carpal tunnel syndrome/ RSI</p> <p>Sitting in the <u>same position/with wrong posture all day</u> can cause lower back pain.</p> <p>Staring at a computer screen <u>all day</u> can cause eye strain/headaches.</p> <p><u>Poor positioning</u> of screen can cause upper back/neck/shoulder pain/ eyestrain/headaches.</p> <p><u>Glare</u> from screen can cause eye strain/headaches.</p> <p><u>Too many plugs</u> connected to a socket can be a fire hazard.</p> <p>Bare wires/spilt drinks <u>can cause electrocution</u>.</p> <p>Trailing wires can cause tripping.</p>	[4]

General comment

Grade A candidates would be expected to gain at least three marks for this question. Grade C candidates would be expected to gain at least two marks and grade E candidates would be expected to gain at least one mark.

In such a question as this it is expected that A Level candidates go beyond the normal brief IGCSE type answer, and stress the specific cause of the health problems i.e. the continuous or repetitive nature of the action.

Example candidate response – grade A

(b) Describe some of the health and safety problems which might occur because of the call centre operators' use of computers.

Repetitiveness of Clicking on the mouse can cause RSI,
 Repetitive continuously typing on the keyboard can cause
 RSI continuously staring at the screen, can cause
 headaches & eye vision problems. The sitting posture
 if its wrong could cause lower back pain.

Examiner comment

The candidate gave three of the required answers. The candidate referred to:

- Repetitive clicking of the mouse.
- Continuously typing on the keyboard.
- Continuously staring at the screen.

It is important that candidates show that they understand that it is the **long term** and **repetitive** use of computers that causes health problems. It was unfortunate that the candidate failed to make this distinction when referring to sitting posture.

Example candidate response – grade C

(b) Describe some of the health and safety problems which might occur because of the call centre operators' use of computers.

- Many users may develop back aches due to sitting in one position for long hours.
- Eyesight problems may occur because of staring at a light emitting screen for very long.
- Carpal tunnel syndrome - a form of RSI - may occur due to the unusual posture of the hands and wrist.
- Cubital tunnel syndrome may occur at elbow joints, again for unusual posture.

Examiner comment

The candidate was more precise in this answer about backache being caused by sitting in the same position for a long time. Similarly credit was given for the description of staring at a screen for a very long time causing eyesight problems.

Unfortunately the description of RSI and cubital tunnel syndrome did not say what specifically cause this. In the event, cubital tunnel syndrome is usually attributed to continuous holding of a telephone in a certain position which is something the call centre operators would not be required to do as they wear headsets to take and make calls.

Example candidate response – grade E

(b) Describe some of the health and safety problems which might occur because of the call centre operators' use of computers.

RSI (Repetitive Strain Injury) can occur in the wrists and forearms when using a computer for a long period of time. Two main types of RSI are Carpal tunnel syndrome and Cubital tunnel syndrome. Posture problems and eye strain can also occur. If too many plugs are in the same socket there can be a risk of overheating and fire.

[4]

Examiner comment

The candidate's answer was too vague for RSI as it is the continuous clicking or continuous typing that is important. The descriptions of RSI and posture problems lacked sufficient detail to gain marks. The candidate was, however, awarded a mark for correctly describing a safety problem in detail.

Question 5 (c)

Describe possible changes to the working patterns of call centre operators caused by the new shift patterns.

Mark scheme

Question Number	Question (including any source details)	Part Mark
5 (c)	<p>Four descriptions from:</p> <p>Some workers may have to/will have the opportunity – to go part-time.</p> <p>There may be the opportunity to job share.</p> <p>There may be the opportunity for flexible working hours.</p> <p>Compressed hours may become available.</p> <p>Some operators are able to work from home.</p> <p>May lead to more operators being given jobs.</p>	[4]

General comment

Grade A candidates would be expected to gain at least three marks for this question. Grade C candidates would be expected to gain at least two marks and grade E candidates would be expected to gain at least one mark.

Example candidate response – grade A

- (c) Describe possible changes to the working patterns of call centre operators caused by the new shift patterns.

The workforce is more content, thus better productivity of work, as people would be able to job share, a job that could be done by one is done by two in a shorter time workers could go part-time, work fewer hours, workers could move from one branch to another, if one branch is busy then could shift there, allowing flexible staffing, compressed workers could work compressed hours, as in the same amount of work in a shorter period of time thus a longer weekend.

[4]

Examiner comment

The candidate made three points which are on the mark scheme:

- A description of job sharing.
- A description of part-time working.
- A description of working compressed hours.

It was noticeable that the candidate appeared to have rote learnt a mark scheme for the point about moving from branch to branch. A call centre would have no branches as such. This answer has been included in a mark scheme for a different scenario, namely banks, which do have branches and when these branches become overstaffed tellers must have the flexibility to move to another branch where there may be staff needed. In any event, in this scenario reference is made about shortening shifts which would lead to understaffing rather than overstaffing.

Example candidate response – grade C

(c) Describe possible changes to the working patterns of call centre operators caused by the new shift patterns.

→ Workers may now have more leisure time since now the workers have the choice of sharing their jobs, allowing them to work for shorter hours.

→ Workers may choose the hours during which they work, making them more productive since their minds would be fresh.

→ The call centre can now operate for even longer due to workers working at alternate times.

→ Work load would be lesser, since the job would be shared by two (or more) workers. [4]

Examiner comment

The candidate started well giving two good descriptions of job sharing and flexible hours.

The third answer had nothing to do with the effect on working patterns and the fourth point was to do with workload rather than the working patterns and the candidate just repeated job sharing which had already gained a mark.

Example candidate response – grade E

- (c) Describe possible changes to the working patterns of call centre operators caused by the new shift patterns.

Some workers may now only have to work part-time, but could receive a pay cut because of this. Other workers may now be required for other jobs. Recruitment for employees with higher skills may now be necessary.

Examiner comment

The candidate made just one valid point related to part-time working. Pay cuts, whilst being extremely unlikely would not be considered a working pattern. Recruitment of employees with higher skills was too vague.

Scenario 4

Dar Es Salaam High School has recently been formed by joining together six smaller schools. The head teacher wants to have a modern ICT system to administer staff and student records. She has decided to employ a systems analyst to look at the existing systems and recommend a new system.

The system will need to produce hundreds of reports in one session and should be able to find individual records very quickly. Using the results of the analysis of the current system the analyst will need to design the new system. Once the system has been designed and developed, user and technical documentation will need to be produced.

Question 6 (a)

Other than observation, describe the methods that the systems analyst could use to research the current systems.

Mark scheme

Question Number	Question (including any source details)	Part Mark
6 (a)	Distribute/Hand out written questionnaires to system users (to complete) Interview current system users face to face Examining documents <u>used in the current system</u>	[1] [1] [1]

General comment

Grade A candidates would be expected to gain full marks for this question. Grade C candidates would be expected to gain at least two marks and grade E candidates would be expected to gain at least one mark.

The essential part of this question was the need for the question to be related to the scenario. As the chief examiner's report said - The answers provided were generally vague descriptions with little reference to teachers and the school. It is surprising to see that despite teachers being the focal point of this scenario as being the 'system users' candidates often referred to 'workers' or 'employees' thereby implying that everybody would be interviewed or given questionnaires rather than the staff concerned. Where candidates mentioned 'staff' it was assumed that they were referring to teachers (who are often referred to as 'members of staff').

Example candidate response – grade A

- (a) Other than observation, describe the methods that the systems analyst could use to research the current systems.

1) Interviews - system analyst could interview the head teacher about the current system.

2) Questionnaires - these can be given to the staffs and they have to be prepared properly to receive exact answers.

3) Examination of documents - this can let the system analyst identify the inputs, outputs and processing of the current system. And see the volume of data present in each type of document.

Examiner comment

The candidate gave the required amount of detail required by the mark scheme, namely:

- Interview current system users (the head teacher in this case).
- Distribute/Hand out written questionnaires to system users (staff was interpreted as meaning teachers).
- Examining documents used in the current system.

Example candidate response – grade C

- (a) Other than observation, describe the methods that the systems analyst could use to research the current systems.

Interviews could be taken. These are questions the system analyst asks the users face to face and inquires about the current system. ~~As~~ ~~As~~ ~~As~~ Questionnaires can be distributed. They are questions on a paper sent to people when they are not physically present or when there are large number of people that cannot be interviewed. [3]

Documents regarding the current system can be examined by the system analyst to get familiarized to the current system.

Examiner comment

The first mark was awarded for the candidate mentioning interviews and users and as there was reference to the current system, it was assumed the candidate was referring to system users.

Unfortunately, no such credit could be given for the second answer as it was felt that the use of the term 'people' was too general and vague. A second mark was awarded, however, for examining documents used in the current system.

Example candidate response – grade E

- (a) Other than observation, describe the methods that the systems analyst could use to research the current systems.

The system analyst could use ~~to~~ interviews with current staff members in order to research the current systems. This could also be done by questionnaires, or reviewing existing documents. Reviewing a questionnaire is tedious, but a good questionnaire allows the analyst to get the exact information they need.

[3]

Examiner comment

The candidate only made one specific point, that of interviewing staff which were assumed to be teachers. The other point about questionnaires did not specify who would be given these and so the answer was insufficient to gain a mark.

Question 6 (b)

Describe **four** different items that the systems analyst will need to include at the design stage. Using the scenario of Dar Es Salaam High School, explain the factors that will influence the choice of each item.

Mark scheme

Question Number	Question (including any source details)	Part Mark																						
6 (b)	<p>Four from each column:</p> <table border="1"> <thead> <tr> <th>Item</th> <th>Factors: an example of how:</th> </tr> </thead> <tbody> <tr> <td>Specifying the required hardware and software</td> <td>the volume of data determines the choice of output devices.</td> </tr> <tr> <td></td> <td>the order that data will be output affects the choice of storage devices.</td> </tr> <tr> <td>Designing data collection forms/ screen layouts</td> <td>the user requirements influences the format</td> </tr> <tr> <td></td> <td>the output required from system influences the design</td> </tr> <tr> <td></td> <td>file structures affect the design</td> </tr> <tr> <td>Designing report layouts/ screen displays</td> <td>the content and presentation of report layouts/screen displays depend on the requirements of the users</td> </tr> <tr> <td>Designing validation routines</td> <td>the form of input affects these.</td> </tr> <tr> <td></td> <td>the file structure affects these.</td> </tr> <tr> <td>Designing the required data/ file structures/programming specifications</td> <td>the data structures/programming depend on the types of processing</td> </tr> <tr> <td></td> <td>the file structure depends on the input and output structures</td> </tr> </tbody> </table>	Item	Factors: an example of how:	Specifying the required hardware and software	the volume of data determines the choice of output devices.		the order that data will be output affects the choice of storage devices.	Designing data collection forms/ screen layouts	the user requirements influences the format		the output required from system influences the design		file structures affect the design	Designing report layouts/ screen displays	the content and presentation of report layouts/screen displays depend on the requirements of the users	Designing validation routines	the form of input affects these.		the file structure affects these.	Designing the required data/ file structures/programming specifications	the data structures/programming depend on the types of processing		the file structure depends on the input and output structures	[8]
Item	Factors: an example of how:																							
Specifying the required hardware and software	the volume of data determines the choice of output devices.																							
	the order that data will be output affects the choice of storage devices.																							
Designing data collection forms/ screen layouts	the user requirements influences the format																							
	the output required from system influences the design																							
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	the file structure affects these.																							
Designing the required data/ file structures/programming specifications	the data structures/programming depend on the types of processing																							
	the file structure depends on the input and output structures																							

General comment

Grade A candidates would be expected to gain at least six marks for this question. Grade C candidates would be expected to gain at least four marks and grade E candidates would be expected to gain at least two marks.

Candidates found this question relatively straightforward and several gained marks for describing four items which would be included at the design stage. However, they found it difficult to gain the supplementary marks for explaining the factors that would influence the choice of these items with reference to the scenario. Candidates frequently provided answers which were learnt by rote from either the syllabus or a past mark scheme. Centres are again warned about this practice as it frequently leads to incorrect answers. What might be considered relevant to one scenario is not necessarily relevant to another.

Example candidate response – grade A

- (b) Describe **four** different items that the systems analyst will need to include at the design stage. Using the scenario of Dar Es Salaam High School, explain the factors that will influence the choice of each item.

For
Examiner's
Use

The input forms need to be designed. The analyst has to keep in mind that hundreds of reports are generated so he may suggest a laser printer as an output device. The input forms are going to be used by teachers so they must be easy to use and contain instructions as to how to navigate between screens. The analyst will then design the output forms which are reports used by parents and children. They will have to be easy to read. Also, the head would want the parents to develop a favourable opinion of the school so the reports must seem professional. The analyst will have to design the data and field structures. This will depend on what kind of input is put in the system. He will probably use relational data bases. He will then design the validation rules. They will depend on the kind of data in the data base. [8]
He will use range checks, type checks and check digits.

Examiner comment

This candidate was awarded six marks. The answers provided did relate the factors to the scenario. The marks awarded were for:

The correct identification of the need for input forms to be designed. The answer gained a supplementary mark for applying their use to teachers therefore a need for ease of use and instructions for navigating between them would be needed.

This was equivalent to the mark scheme points:

Designing data collection forms/ screen layouts	An example of how: the user requirements influences the format
----------------------------------------------------	----------------------------------------------------------------------

The candidate then went on to describe the need for designing output forms or reports. There was also 'the head would want the parents to develop a favourable opinion of the school so the reports must seem professional'. This was equivalent to:

Designing report layouts/screen displays	the content and presentation of report layouts/screen displays depend on the requirements of the users
------------------------------------------	--------------------------------------------------------------------------------------------------------

The candidate continued with the need for design of field structures (this was given benefit of the doubt as being the same as file structures). This was awarded a mark but, unfortunately, the factors that would affect the choice were not explained in terms of the scenario.

The candidate also described the need for the design of validation rules but failed to explain the factors which would affect the choice (a good example would have been the need for range checks on student scores etc.).

The candidate did explain the factors which would affect the choice of output device (in this case a laser printer) but had not identified the choice of hardware and software being an item needed at the design stage. As the candidate was given credit for describing four different items and explained the factors for two of them a total of six marks was awarded.

Example candidate response – grade C

(b) Describe four different items that the systems analyst will need to include at the design stage. Using the scenario of Dar Es Salaam High School, explain the factors that will influence the choice of each item.

The systems analyst will need to design the data collection format & screen layout, this is highly influenced by user requirements & file structure & volume of data.

He would also need to design the report layouts & screen layouts this is influenced by the choice of the hardware & software & the file structure & user requirements.

He needs to design the file structure & processing; this influenced by the user requirements & type of data.

He needs to design validation rules which are influenced by the format of data structure & forms & data type & order.

Examiner comment

The candidate described four items but did not explain any of the factors with reference to the scenario relying instead on generalised answers which were not specific to the scenario. The four items were:

- Designing data collection forms.
- Designing report layouts.
- Designing the required file structures.
- Designing validation routines.

Example candidate response – grade E

(b) Describe four different items that the systems analyst will need to include at the design stage. Using the scenario of Dar Es Salaam High School, explain the factors that will influence the choice of each item.

- The hard wares and softwares that will be used in the new system. such as they have to use the CAL system software in designing the new system since they want to make modern system
- The input and output of the system, maybe the output will be the records of each students.
- The validation for all the data.
- The layout of the new system and it have to be user friendly and consistent so it will be easy to use and to understand.

Examiner comment

The candidate was given the benefit of the doubt regarding specifying the required hardware and software and gained a further mark for the need to design validation rules. The statements about CAL, input and output and the layout of the new system were too vague to gain any marks.

Question 7 (a)

Explain the purpose of technical documentation.

Mark scheme

Question Number	Question (including any source details)	Part Mark
7 (a)	<p>Two from:</p> <p>Produced specifically for systems analysts/programmers.</p> <p>Helps when the system needs further development/upgrading/improvements.</p> <p>Helpful should any errors occur in the system and system needs amending to get rid of these errors.</p>	[2]

General comment

Grade A candidates would be expected to gain both marks for this question, whereas grade C and E candidates would be expected to gain one mark.

Example candidate response – grade A

(a) Explain the purpose of technical documentation.

Technical documentation is the information supplied to any programmer about the current system, if in the future there are any faults ^{with the system} so that it can be fixed or adjusted for the programmer's convenience. [2]

Examiner comment

The candidate made two good points about technical documentation:

- Being provided for programmers.
- Needed in order for errors that occur to be corrected.

Example candidate response – grade C

(a) Explain the purpose of technical documentation.

Technical documentation is produced so that other people (a programmer or system analyst) who want to repeat the process of design, can know what type of software was used how it was programmed and what the whole objective of the system is. [2]

Examiner comment

The candidate just gave an answer writing what technical documentation is without stating the purpose. A mark could only be awarded for the candidate stating who it was for.

Example candidate response – grade E

(a) Explain the purpose of technical documentation.

Technical documentation is used to help the next analyst by stating all the test data and the purpose of the system and technical documentation is produced for the system analyst. [2]

Examiner comment

This candidate also could only be awarded a mark for writing who the technical documentation is for, there being no explanation of the purpose of it.

Question 7 (b)

Describe the **two** types of technical documentation including details of the contents of each one.

Mark scheme

Question Number	Question (including any source details)	Part Mark
7 (b)	<p>Eight from:</p> <p>Systems documentation.... provides a detailed overview of the whole system. Test data/test plans so that systems analyst <u>can see the results of these/test results.</u> Can use this data again to check if errors have been successfully removed. The results of the systems analysis/DFD diagrams. What is expected of the system/purpose of the system. Overall design decisions such as the choice of hardware and software/file, input and output structures. Systems flowcharts.</p> <p>Program documentation.... produced for program code that has been written. Description of the software/purpose of the software. Reasons for choosing those pieces of existing software that were used... instead of the programmer having to write code. Input and output data formats. Program flowcharts/algorithms. Program listing – this will be a complete copy of the code used... ...and annotation explaining what each module of code does. Notes that will help any future programmer to make modifications to the system.</p>	[8]

General comment

Grade A candidates would be expected to gain at least seven marks for this question. Grade C candidates would be expected to gain at least five marks and grade E candidates would be expected to gain at least two marks, if only just being able to name the two types.

Example candidate response – grade A

(b) Describe the two types of technical documentation including details of the contents of each one.

1) System documentation:-

This documentation will be produced by the system analyst. It will include the data flow diagrams used, so it can be seen how to develop the system. It will contain the inputs, outputs, and processing used in the new system. It will contain the ~~input~~ hardware used, and it will contain test results with test data to see the difference between the actual and expected results.

2) Program documentation:-

This will be developed by the programmer. It will contain the choice of software used and why it was used, and the programming code the programmer developed & specifically ~~to~~ to solve the solution, and any annotations in the programming code.

[8]

Examiner comment

The following points on the mark scheme show how the candidate was given credit for including details of technical documentation as follows:

- Correctly naming systems documentation.
- The results of the systems analysis/DFD diagrams.
- Overall design decisions such as the choice of hardware and software.
- Test data/test plans so that systems analyst can see the results of these/test results.
- Correctly naming program documentation.
- Program code that has been written.
- Annotation explaining what each module of code does.

As is often the case with longer essay type questions, the examiner always seeks to give the candidate the benefit of the doubt. Although the candidate did not specifically include 'choice of hardware and software', the candidate did mention hardware in the systems documentation part of the answer and choice of software in the program documentation. The examiner combined the two parts of the answer and awarded the mark. However, no benefit of the doubt could be applied to 'inputs, outputs and processing' as this is too general a phrase. The mark scheme requires answers such as input and output **structures** and this was

part of the 'overall design decisions' mark point which had already been awarded in any case. The candidate was also given the benefit of the doubt over the last mark point despite not going into the level of detail specified in the mark scheme.

Example candidate response – grade C

(b) Describe the two types of technical documentation including details of the contents of each one.

System documentation :-

It is the documentation that is made after the new system has been completed. It tells the user how the new system is used. It has data flow diagram and flow charts which help the user to know how data is inputted, how it is processed and how it is outputted. If the user faces any difficulty, he can refer to the system documentation and tackle the problems.

Program Documentation :-

It is the documentation which stores all details about the program. It shows the programming instructions and languages used. There are system flow charts and algorithms used in it which help the user understand the workings of the system.

Examiner comment

The candidate correctly identified the two types of documentation and was also given credit for including specific details of the contents as follows:

- Systems documentation.
- Overall design decisions such as the choice of file structures.
- The results of the systems analysis.
- What is expected of the system/purpose of the system.

- Program documentation.

The examiner again gave the benefit of the doubt to the candidate by combining the two parts of the answer – ‘Overall design decisions’ and where the candidate later wrote ‘file structure’ – to award one mark.

Example candidate response – grade E

(b) Describe the two types of technical documentation including details of the contents of each one.

There's the system documentation
~~where~~ here tests are conducted and
 all output devices are chosen.
 There is also program documentation.

Examiner comment

The candidate correctly identified the two types of technical documentation but was unable to go into any detail about them. The mention of ‘test’ and ‘all output devices are chosen’ was too vague.

Question 7 (c)

After the system has been developed it will be evaluated. Describe how test results are recorded and explain how they affect this evaluation.

Mark scheme

Question Number	Question (including any source details)	Part Mark
7 (c)	<p>Three from:</p> <p>(A table) showing the type of test, test data, expected results, actual results and a comment on the results. (One mark for three column headings, two marks for 5 column headings.)</p> <p>Test results will help the systems analyst to make judgements.</p> <p>Comparison will be made of the actual results with the expected results.</p> <p>If the results are not as expected system will need to be refined.</p> <p>Comments in the comparison table contribute to the evaluation.</p>	[3]

General comment

Grade A and C candidates would be expected to gain at least two marks and grade E candidates would be expected to gain at least one mark.

Example candidate response – grade A

- (c) After the system has been developed it will be evaluated.
Describe how test results are recorded and explain how they affect this evaluation.
- Test results are recorded via flowcharts ~~& flow diagrams~~ ^{with input, output} & process represented by symbols, & flow diagrams ~~of~~ ^{which} include terminators, processes, stores, & flow arrows, & by also producing a user requirement documentation. The test results are compared with the expected results, if they are not the same refinements are made, and any improvements are included, & thus experimenting again to see if the improvements are justifiable. [3]

Examiner comment

The candidate initially misunderstood the question and wrote about how the results of the analysis of an existing system are recorded instead of how the results of testing a new system would be recorded. Fortunately the response continued and included two good points regarding the use of the results of testing:

- Actual results are compared with the expected results.
- If the results are not as expected the system will need to be refined.

Example candidate response – grade C

- (c) After the system has been developed it will be evaluated.
Describe how test results are recorded and explain how they affect this evaluation.
- Test results are used to evaluate the system.
- Actual results are compared with expected results.
 - If there are any difference refinement will be necessary.
 - There are only two views on the new system.
 - Identify any limitations to the system.
 - Limitations are then used to make improvements to the system.
 - And system is developed.
- [3]

Examiner comment

This candidate gained marks for:

- Actual results are compared with the expected results.
- If the results are not as expected the system will need to be refined.

The last few points in the candidate's answer related to how testing might be carried out and steps in the evaluation process. Neither of these were required by the question.

Example candidate response – grade E

- (c) After the system has been developed it will be evaluated.
Describe how test results are recorded and explain how they affect this evaluation.

The test results are recorded in the form of a table report in the software technical documents. Evaluation can be done by making workers to compare the ease of use of the old system compared to the new one. It can also be done by comparing the ~~test~~ expected test results to the actual test results, if they are different, then there is a problem in the new system. This will be done by ~~use~~ using abnormal data, normal data, extreme data and live data. [3]

Examiner comment

The candidate gained no marks for the initial statement that test results are recorded in the form of a table. Having stated this, the candidate should have gone on to describe the contents of this table to gain marks. Then the answer described how the testing might take place rather than how the results would be recorded.

The candidate gained a mark for the comparison of actual results with expected results. There was no mention of what action would be taken if a problem was identified. Just stating that there might be a problem is not enough. The rest of the answer concentrated on types of test data which, again, was not required by the question.

PAPER 2

Presentation

Questions 1–7

You are going to help trainees in a company understand some of the ICT features they might be required to use and show them how to use them.

- 1 You are required to provide evidence of your work, including screen shots at various stages. Create a document named:
CentreNumber_CandidateNumber_Evidence.rtf
e.g. ZZ987_82_Evidence.rtf

Place your name, Centre number and candidate number in the header of your evidence document. [1]
- 2 Create a presentation using the file **NXNOTES.RTF** to help you. [1]
- 3 On the slide master:
The slide master must have a white background and your Centre number, candidate number and name in a 12 point black serif font placed in the top right corner.
Ensure on all slides that no objects overlap. [3]
- 4 Some slides contain a title and questions.
Under each red bullet point briefly answer the question in your own words (related to the slide title and the preceding slide/s), using a bullet point in a black sans-serif font. [37]
- 5 Print all the slides of your presentation.
- 6 Insert hyperlinks on the first slide to make all of the text for each bullet point a link to the relevant slide.
Include in your evidence document screenshots that show how you created these links. [8]
- 7 On the first slide add a fifth bullet point with the text **Hothouse website** that links to the URL <http://www.hothouse-design.co.uk>
Include in your evidence document a screenshot that shows how you created this link.
Save your presentation. [3]

Mark scheme

Slide 3

Candidate name & numbers
Candidate name & numbers

Corporate house style

- What is a corporate house style? [1]
- Consistent colour scheme/ logo/trade mark / symbol / branding / set of rules / specifications [1]
- Why is it used? [1]
- Way of recognising the company / branding / ensure consistency of company documents [1]
- How is it created? [1]
- Styles applied to all documents /website/interface with public/ style guides/template documents [1]
- Where is it seen? [1]
- letter heads/ business cards /advertising/ websites/company vehicles/intranet/predefined in software [1]

[4]

Slide 4

Candidate name & numbers

Verification

- What is the feature? [1]
- Checking that data has been entered accurately [1]
- Why is it used? [1]
- Reduction in number of errors [1]
- How is it performed? [1]
- double entry / visual compare of entry and original doc [1]
- What data might be verified on a web form? [1]
- Password / email address [1]

[4]

Slide 5

Candidate name & numbers

Evaluate internet sources

- How do you recognise a secure website?
- Padlock / https [1]
- Which part of a URL would show a site belongs to university?
- .ac .edu [1]
- What sort of organisation has a URL that ends .gov.au
- government [1]
- Why may information in a wiki be untrue?
- Not validated / anyone can enter data [1]

[4]

Slide 6

Candidate name & numbers

Manipulating images

- What is the feature?
- Changing an image to match a specified purpose [1]
- Why is it used?
- To give impact to audience / To fit available space / reduce file size for transfer / enhance or touch up image [1]
- What image format would be most suitable for a webpage?
- .jpg / .gif / .png [1]
- What problems could be caused by manipulating an image?
- Ethical / moral / loss of quality / distortion / pixelation / skewing / increased file size / incompatible formats / loss of layers / bitmap versus vector [1]

[4]

Slide 8

Candidate name & numbers

Special characters

- What is the feature?
- Symbol / mathematical / accents / language characters [1]
- Why are they used?
- Tick boxes / formulae / accented characters / writing in foreign language [1]
- How would you add a special character to a document?
- Description of method of selection (eg. Insert then symbol) [1]
- Where would you include a special character?
- Data capture form / mathematical paper / Japanese text [1]

[4]

Slide 9

Candidate name & numbers

Superscript and subscript

- What is superscript?
- Superscript moves character above baseline [1]
- Give an example of its use
- Superscript for indices / mathematical documents [1]
- What is subscript?
- Subscript below baseline [1]
- Give an example of its use
- Subscript for chemical formulae / scientific documents [1]

[4]

Slide 10

Candidate name & numbers

Auto text used in word processing

- **What is auto text?**
- **Commonly used text / phrases / file name / path auto numbering** [1]
- **Why is it used?**
- **Save time repeatedly typing** [1]
- **Give an example of its use?**
- **Header / Footer / Salutation / etc** [1]
- **Describe how you would insert auto text**
- **Insert & AutoText / Tools & Templates & Add-ins** [1]

[4]

Slide 12

Candidate name & numbers

Hyperlinks

- **What is a hyperlink?**
- **Link to slide / document / website** [1]
- **Why is it used?**
- **Move to different media / location / different slide / move to slide out of sequence / menu** [1]
- **How do you recognise a hyperlink?**
- **Underscore, different colour, changes when cursor moved over it** [1]

[3]

Slide 13

Candidate name & numbers

Audio and video files in presentations

- Why are these files used in presentations?
- To give impact to audience / enhance presentation / show actual video of a situation or place [1]
- Give an example of a file type would be for audio
- .mp3 / .wav / .flac / .ogg / .aac / .aiff / .wma / .au [1]
- Why is this file type used?
- Discussion on size / quality [1]

Presentation created	1 mark
Text on slides	
Black font	1 mark
Sans-serif font	1 mark
Consistent within slide	1 mark
Slide master	
Candidate name & no's top right	1 mark
Black Serif font	1 mark
Not overlapping	1 mark

[3]

Example candidate response – grade A

Slide 1

Hothouse Design

- **Generic features**
- **Manipulating images**
- **Features used in document production**
- **Features used in presentation authoring**

Slide 2

Generic features

- **Corporate house styles**
- **Verification**
- **Evaluate internet sources**

Slide 3

Corporate house style

- **What is a corporate house style?**
- **It is a graphic design and layout for a company.**
- **Why is it used?**
- **To give a professional and identifiable look to a company.**
- **How is it created?**
- **Logos and colours are selected as well as formatting of different text and headings.**
- **Where is it seen?**
- **In all the companies documentation as well as advertisements.**

Slide 4

Verification

- What is this feature?
- Manual checking of data
- Why is it used?
- To reduce entry of errors.
- How is it performed?
- Entering data twice and looking at data again once entered.
- What data might be verified on a web form?
- Passwords or email addresses.

Slide 5

Evaluate internet sources

- How do you recognise a secure website?
- A yellow padlock displayed by the browser.
- Which part of a URL would show a site belongs to a university?
- End prefix ".ac"
- What sort of organisation has a URL that ends .gov.au?
- Government of Australia.
- Why may information in a wiki be untrue?
- Because information is edited by any of its users.

Slide 6

Manipulating images

- What is this feature?
- Editing and formatting images.
- Why is it used?
- To resize or cut certain parts.
- What image format would be most suitable for a webpage?
- .jpg
- What problems could be caused by manipulating an image?
- Distortion of the image.

Slide 7

Features used in document production

- **Special characters**
- **Superscript and subscript**
- **Auto text**

Slide 8

Special characters

- **What is this feature?**
- **Why are they used?**
- **How would you add a special character to a document?**
- **Where would you include a special character?**

Slide 9

Superscript and subscript

- **What is superscript?**
- **Text which is above the baseline.**
- **Give an example of its use.**
- **16m²**
- **What is subscript?**
- **Text which is below the baseline.**
- **Give an example of its use.**
- **H₂O**

Slide 10

Auto text used in word processing

- **What is auto text?**
- **Why is it used?**
- **Give an example of its use.**
- **Describe how you would insert auto text.**

Slide 11

Features used in presentation authoring

- **Hyperlinks**
- **Audio and video files**

Slide 12

Hyperlinks

- **What is a hyperlink?**
- **Is link that directs to another location or document.**
- **Why is it used?**
- **To make it easy to get to information quickly.**
- **How do you recognise a hyperlink?**
- **It is formatted in a different colour and is underlined.**

Slide 13

Audio and video files in presentations

- **Why are these files used in presentations?**
- **To improve the standard of the presentation, making it more interesting.**
- **Give an example of a file type that would be used for audio.**
- **.mp3**
- **Why is this file type used?**
- **Because of its small size, and good quality.**

Examiner comment

Presentation

The overall presentation attained six of the seven available marks for the correct importing of the presentation from the provided source file and for setting the slide master with a white background and the correct candidate details in the top right corner. These details were inserted in a sans-serif font rather than a serif font so a single mark was lost for this. The text on all slides was added using a black sans-serif font and was of consistent size within each slide.

Many of the slides contained questions requiring theoretical knowledge and understanding as well as the application of practical skills. On slide 3 all four answers were deemed worthy of marks, although the answer to 'How is a corporate house style created?' was deemed just worthy of a mark but lacking in depth of knowledge.

Slide 4 asked questions on verification. 'What is this feature?' required the candidate to include some reference of checking the accuracy of data entry. This candidate had omitted any reference to accuracy and included 'manual' which would only be partially correct. The other three answers on this slide are all excellent answers and gained three of the four available marks.

Both slides 5 and 6 contained valid and acceptable answers to all of the eight questions and gained full marks. On slide 8 the candidate did not provide any answers to the questions on special characters. There were excellent answers to all four questions on slide 9, with full marks being attained for these questions. On slide 10 the candidate did not provide answers to any of the questions relating to auto text. Slide 12 contained three sound answers relating to hyperlinks, each attaining a mark. This candidate also demonstrated sound knowledge relating to audio and video files and scored a full three marks for their answers in this area.

Example candidate response – grade C

Slide 1

Hothouse Design

- Generic features
- Manipulating images
- Features used in document production
- Features used in presentation authoring
- Hothouse website

Slide 2

Generic features

- **Corporate house styles**
- **Verification**
- **Evaluate internet sources**

Slide 3

Corporate house style

- **What is a corporate house style?**
 - Is the use of special logo and name on letterheads and forms..
- **Why is it used?**
 - Used to represent an organisation and grab the readers attention by use of the form design.
- **How is it created?**
 - It is created by using clip art and font format and font size, colour etc.
- **Where is it seen?**
 - It is seen in letterheads of companies

Slide 4

Verification

- **What is this feature?**
 - Process of confirmation of correct data entry ✘
- **Why is it used?**
 - To ensure correct entry of data
- **How is it performed?**
 - You can visually verify it or re-enter data.
- **What data might be verified on a web form?**
 - The copyright detail at the bottom.
- **Copyright details**

Slide 5

Evaluate internet sources

- **How do you recognise a secure website?**
 - By looking at the ending of the web address
- **Which part of a URL would show a site belongs to a university?**
 - Website address ends with edu
- **What sort of organisation has a URL that ends .gov.au?**
 - Websites under control of a government representative
- **Why may information in a wiki be untrue?**
 - I may not be up to date.

Slide 6

Manipulating images

- **What is this feature?**
 - To enter pictures
- **Why is it used?**
 - To make work more attractive
- **What image format would be most suitable for a webpage?**
 - Right image format
- **What problems could be caused by manipulating an image?**
 - There can be a viewing problem.

Slide 7

Features used in document production

- **Special characters**
- **Superscript and subscript**
- **Auto text**

Slide 8

Special characters

- **What is this feature?**
 - To enter symbols
- **Why are they used?**
 - To make work more attractive
- **How would you add a special character to a document?**
 - Press the insert menu and then press symbol, allows you to select from a list of symbols
- **Where would you include a special character?**
 - At the end of a document

Slide 9

Superscript and subscript

- **What is superscript?**
- **Give an example of its use.**
- **What is subscript?**
- **Give an example of its use.**

Slide 10

Auto text used in word processing

- **What is auto text?**
- **Why is it used?**
- **Give an example of its use.**
- **Describe how you would insert auto text.**

Slide 11

Features used in presentation authoring

- **Hyperlinks**
- **Audio and video files**

Slide 12

Hyperlinks

- **What is a hyperlink?**
 - A link from a hypertext file to another file.
- **Why is it used?**
 - It makes it easier for the user to operate
- **How do you recognise a hyperlink?**
 - It has a different font colour and is underlined

Slide 13

Audio and video files in presentations

- **Why are these files used in presentations?**
 - To make presentation more interesting
- **Give an example of a file type that would be used for audio.**
 - The recording of a person
- **Why is this file type used?**
 - To make presentations more interactive.

Examiner comment

Presentation

The overall presentation attained all seven marks for the correct importing of the presentation from the provided source file and for setting the slide master with a white background and the correct candidate details in the top right corner. These details were inserted in a serif font and the text on all slides was added using a black sans-serif font and was of consistent size within each slide.

Many of the slides contained questions requiring theoretical knowledge and understanding as well as the application of practical skills. On slide 3 the first answer, although imprecise was deemed worthy of a mark. The second question was well answered, but the question related to how it was created lacked the detail to show this candidate had real understanding of the use of styles, templates or other consistency issues that would have gained a mark. The fourth question was answered with a single correct application.

Slide 4 asked questions on verification. 'What is this feature?' was answered incorrectly. The candidate's response that it was a 'Process of confirmation of correct data entry' was inaccurate. A correct response would include a mention of accuracy of data entry, verification does not ensure that the data is entered is correct. The second response from the candidate was a rewording of the first response and again the use of the word 'correct' in this context meant no mark could be awarded. The final answer did not describe data entered and verified on a web form.

The initial answer on slide 5 did not give the examiner sufficient detail to enable them to award a mark. The other three answers were all deemed acceptable and all awarded a single mark.

Slide 6 was not well answered. Although there was a degree of flexibility in the acceptable answers the candidate's response to the first answer was not deemed sufficient to constitute an AS Level response. The word 'manipulate' needed more than just entering an image, perhaps cropping, resizing or any other similar function would have been awarded a mark. The second question again reflected a lack of detail and was not worthy of a mark at this level. The third answer showed no knowledge of image file formats, or issues relating to distortion, pixilation etc for the final question.

The first response on slide 8 was not correct, special characters are symbols, not the action of entering symbols. For the second question, the use was not explicit in the answer given by this candidate. The process of inserting a special character into a document was accurately portrayed and gained a mark. The final candidate response on this slide was not worthy of a mark.

On slides 9 and 10 the candidate did not provide answers to any of the questions relating to superscript, subscript and autotext.

On slide 12 the candidate's first response stated that a hyperlink was from a hypertext file which is incorrect, the second response was too vague, with an extension to this answer the candidate may have attained this second mark. The final question was well answered and gained a single mark.

The first response on slide 13 was worthy of a mark, however on the second and third questions there was no evidence of the candidate's understanding of file types for these media files, or why particular file types are selected for use.

Example candidate response – grade E

Slide 1

Hothouse Design

- **Generic features**
- **Manipulating images**
- **Features used in document production**
- **Features used in presentation authoring**

Slide 2

Generic features

- **Corporate house styles**
- **Verification**
- **Evaluate internet sources**

Slide 3

Corporate house style

- **What is a corporate house style?**
- **It's a house which could be used to attract anyone.**
- **Why is it used?**
- **To help attract business and work from home.**
- **How is it created?**
- **With imagination**
- **Where is it seen?**
- **In rich areas**

Slide 4

Verification

- **What is this feature?**
- It's a Safety feature
- **Why is it used?**
- To keep personal data confidential
- **How is it performed?**
- By typing secure information onto the website
- **What data might be verified on a web form?**
- Your name, surname, date of birth, ect.

Slide 5

Evaluate internet sources

- **How do you recognise a secure website?**
- Get verification
- **Which part of a URL would show a site belongs to a university?**
- the first part
- **What sort of organisation has a URL that ends .gov.au?**
- Government organisations.
- **Why may information in a wiki be untrue?**
- Because people can upload their own ideas onto a Wiki

Slide 6

Manipulating images

- **What is this feature?**
- It allows you to edit images TV
- **Why is it used?**
- To modify Images to suit your needs /
- **What image format would be most suitable for a webpage?**
- JPG /
- **What problems could be caused by manipulating an image?**
- It could reduce the Quality of an Image /

Slide 7

Features used in document production

- Special characters
- Superscript and subscript
- Auto text

Slide 8

Special characters

- **What is this feature?**
- Helpful characters x
- **Why are they used?**
- In-case they are need for certain tasks x
- **How would you add a special character to a document?**
- As a signature or logo x
- **Where would you include a special character?**
- At the end of the document x

Slide 9

Superscript and subscript

- **What is superscript?**
- A very long Document ✓
- **Give an example of its use.**
- To give information ✗
- **What is subscript?**
- A shorter Document than a Superscript ✗
- **Give an example of its use** ✓
- The bill of rights ✗

Slide 10

Auto text used in word processing

- **What is auto text?**
- Fills in the rest of a word you've just started typing ✓
- **Why is it used?**
- To make typing faster and error free ✓
- **Give an example of its use.**
- When saying: How are you? Are you have to do type
How and the rest of the sentence will be filled ✓
- **Describe how you would insert auto text.**
- You will have to turn on the feature ✓

Slide 11

Features used in presentation authoring

- Hyperlinks
- Audio and video files

Slide 12

Hyperlinks

- **What is a hyperlink?**
- A text which when u click on directs you to a website
- **Why is it used?**
- To make it easy for people browsing the web to find the link to the home page or forum
- **How do you recognise a hyperlink?**
- It is usually a different colour than the other text and is underlined

Slide 13

Audio and video files in presentations

- **Why are these files used in presentations?**
- To Give clear examples of what the presentation is about and get the point accross easier ✓
- **Give an example of a file type that would be used for audio.**
- WMA ✓
- **Why is this file type used?**
- Because it is good quality ✓

Examiner comment

Presentation

The overall presentation attained six of the seven marks for the correct importing of the presentation from the provided source file. The mark for setting the slide master with a white background and the correct candidate details in the top right corner was not awarded as these details were placed in the lower right area of the master slide. These details were inserted in a serif font and the text on all slides was added using a black sans-serif font and was of consistent size within each slide.

Many of the slides contained questions requiring theoretical knowledge and understanding as well as the application of practical skills. On slide 3 the first answer did not contain any valid mark points so no mark was awarded. The second answer, although showing some knowledge, suggested it was a method of advertising, and to work from home. Neither of these points was worthy of a mark, but it is worth noting that when candidates respond with multiple different answers to a question (as is the case with this answer), only the first response will be marked. If the second part had been a continuation or enhancement to the initial statement, perhaps offering clarity it would be taken into account by the examiner. The third and fourth answers on this slide were not worthy of any marks.

Slide 4 asked questions on verification. 'What is this feature?' was answered incorrectly. The candidate's response was that it was a safety feature. The second response from the candidate was related to data confidentiality so no mark could be awarded. The third response was related to security of information on a website, and although the candidate did relate their answer to data entry, there was insufficient in this answer to suggest that the candidate understood any of the verification processes. The final answer included three different answers, the data specified (name) would not have been critical to the functioning of a web form (like a password to access it) so no mark was awarded.

The initial answer on slide 5 was incorrect and gained no marks. The second response was both incorrect and also lacked sufficient detail (even if the last part had been given as the answer) as a response indicating .ac or .edu was required to gain this mark. The third question was answered correctly and gained this candidate a mark. The fourth response was also a sound answer, had the candidate continued to include the lack of moderation of wiki posts this would have been a superb response.

Slide 6 was reasonably well answered. Although there was a degree of flexibility in the acceptable answers the candidate's response to the first answer was not deemed sufficient to constitute an AS level response. Just 'editing' without specific or a designated purpose would be awarded a mark at IGCSE level but is too vague at AS Level. The second question was awarded a mark, although not a strong answer, it did convey a sense of audience and purpose in 'to suit your needs' so was given the benefit of the doubt by the examiner. The third response was fine and gained the mark. The fourth question was also adequately answered with quality reduction worthy of this final mark for the slide.

The first response on slide 8 was too vague as "Helpful characters" may have provided a starting point to an answer but was insufficient to show knowledge of the subject matter. The second answer was again too vague; if the candidate had followed this with a specific example they could have gained a mark. The final two candidate responses on this slide were not worthy of any marks.

On slide 9 the candidate did not provide answers that related to any of the questions about the topics of superscript and subscript. These responses showed a gap in the candidate's knowledge. The first response on slide 10 described automatic completion of text being entered rather than it being commonly used phrases etc that could be automated, for example: an automated company name entered via a keyboard shortcut, an automated field for today's date, time or filename. The second mark on this slide was awarded for this response. The example given by the candidate to the third question was not a realistic use of autotext because the word 'How' could formulate the start of many different sentences. The fourth question required a more detailed and explicit answer to show the candidate had some practical knowledge of applying this feature to their work. "...turn on the feature" did not convey this knowledge to the examiner.

On slide 12 the candidate's first response stated that a hyperlink was 'a text which when u click on directs you to a website'. It is not specifically text and may be a hyperlink to another format (for example, a document) rather than to only a website. Please note that candidates should be advised that correct English should be used in examination answers and shorthand notation used in SMS messaging (or other similar practices) should not be used. The second answer was also weak, but was given the benefit of the doubt by the examiner as it did encompass the idea behind one application of a hyperlink. The third answer was a solid answer and attained the mark.

All three responses on slide 13 were worthy of marks. The initial answer, although weak did portray the need for impact to the audience, the second answer was fine and the third answer gave one attribute of this particular file type.

Spreadsheet, chart and evidence document

Questions 8–32

Hothouse Design has been asked to develop some large advertisements for the 2012 Olympic games. Use a spreadsheet to analyse the production dates for these advertisements.

- 8 Using a suitable software package, load the file **NXJOBS.CSV**
- 9 Insert a new row 8 and in cell A8 add the text **Project 6** [2]
- 10 Replace the word *Advertisement* with the word **Project** wherever it appears in the spreadsheet. [1]
- 11 In cell B3 enter the date 28th November 2010.
 In cell B4 enter the date 16th October 2010.
 In cell B5 enter the date 2nd November 2010.
 In cell B6 enter the date 30th November 2010.
 In cell B7 enter the date 1st December 2010.
 In cell B8 enter the date 2nd December 2009. [6]
- 12 Delete row 2 from the spreadsheet. [1]
- 13 Embolden all cells in row 1 and all cells in column A. [1]
- 14 In cell C2 use a function to extract the day as a numeric value from cell B2. [1]
- 15 In cell D2 use a function to extract the month as a numeric value from cell B2. [1]
- 16 In cell E2 use a function to extract the year as a numeric value from cell B2. [1]
- 17 In cell J2 calculate the end date for the project using the start date and the number of days it will take for planning, design, creation and installation. [1]
- 18 Replicate the formulae used in steps 14 to 17 for all projects. [1]
- 19 In cell J7 change the date to 23rd July 2010. [1]
- 20 Format all the date cells in columns B and J into the format dd/mm/yy. [1]
- 21 Insert a formula in cell K2 which uses the file **NXMONTH.CSV** to look up the season from the *Start date* and adds this to the date.
 For example: 01/01/2010 will be displayed as **01 January 2010 (Winter)** [14]

- 22 In cell L4 use a formula to calculate the difference in months, between the start date and the end date.
Replicate this formula for all projects. [5]
- 23 In cell A10 use a formula to count the number of projects that start in Winter. [4]
- 24 Create a header which says **Planning time for projects** and a footer which contains your name, Centre number and candidate number. [2]
- 25 Save and print your spreadsheet, adjusting the page layout if necessary so that the whole table fits on a single page. Make sure that the contents of all cells are fully visible. [2]
- 26 Change the wording of the header to **Formulae and functions used** [1]
- 27 Print the spreadsheet in landscape orientation, showing all formulae instead of values. Ensure that all formulae and labels are fully visible. Show row and column headings. [4]
- 28 Produce a chart showing the analysis of days planned for each stage for projects 1 to 5. This chart should show a comparison of the overall project lengths and each stage within each project. Select the project numbers (eg. **Project 1**) for the category axis and the number of days from the start of the project for the value axis. Select the most appropriate type of graph or chart to display the data.
Ensure that your chart is fully labelled. Place your name, centre number and candidate number on the chart. Save and print this chart. [11]
- 29 Compress the files saved in steps 7 and 25 into a single file.
Include in your evidence document a screenshot that shows how you compressed these files. [2]
- 30 Include in your evidence document a screenshot showing the file names, file types, date and time modified and file sizes. [3]
- 31 At the end of your evidence document, give two reasons why you would compress these files. [2]
- 32 Save and print your evidence document.

Mark scheme

Planning time for projects

Header 100% correct 1 mark
 Fits to single page 1 mark
 Fully visible 1 mark

Row 2 deleted 1 mark

6 correct dates 6 marks

Row 1 & Column A - Bold 1 mark

Estimated Production dates	Start date	Day	Month	Year	Planning	Design	Creation	Installation	End date	Full start date	Months
Project 1	28/11/10	28	11	2010	50	24	30	6	18/03/11	28 November 2010 (Autumn)	4 Au
Project 2	16/10/10	16	10	2010	32	22	50	10	07/02/11	16 October 2010 (Autumn)	4 Au
Project 3	02/11/10	2	11	2010	30	21	45	7	13/02/11	02 November 2010 (Autumn)	3 Au
Project 4	30/11/10	30	11	2010	36	28	42	21	06/04/11	30 November 2010 (Autumn)	5 Au
Project 5	01/12/10	1	12	2010	45	45	72	14	26/05/11	01 December 2010 (Winter)	5 Wi
Project 6	02/12/09	2	12	2009					23/07/10	02 December 2009 (Winter)	7 Wi

End dates during winter

Row 8 inserted 1 mark
 'Project 6' 100% correct 1 mark
 Global replace - Advertisement to Project 1 mark

Cell J7 23/07/10 1 mark
 Columns B & J - dd/mm/yy format 1 mark
 Display for column K (in formulae)

Candidate name & numbers

In footer 1 mark

Formulae and functions used

Header 100% correct 1 mark
 Orientation Landscape 1 mark
 Row headings Fully visible 1 mark
 Column headings Fully visible 1 mark
 Formulae & labels Fully visible 1 mark

	A	B	C	D	E	F	G	H	I	J
1	Estimated Production dates	Start date	Day	Month	Year	Planning	Design	Creation	Installation	End date
2	Project 1	40510	=DAY(B2)	=MONTH(B2)	=YEAR(B2)	50	24	30	6	=B2+F2+G2+H2
3	Project 2	40467	=DAY(B3)	=MONTH(B3)	=YEAR(B3)	32	22	50	10	=B3+F3+G3+H3
4	Project 3	40484	=DAY(B4)	=MONTH(B4)	=YEAR(B4)	30	21	45	7	=B4+F4+G4+H4
5	Project 4	40512	=DAY(B5)	=MONTH(B5)	=YEAR(B5)	36	28	42	21	=B5+F5+G5+H5
6	Project 5	40513	=DAY(B6)	=MONTH(B6)	=YEAR(B6)	45	45	72	14	=B6+F6+G6+H6
7	Project 6	40149	=DAY(B7)	=MONTH(B7)	=YEAR(B7)					40382
8										
9	End dates during a weekend									
10	=COUNTIF(M2:M7,"=Winter")									

Day Correct function 1 mark
 Month Correct function 1 mark
 Year Correct function 1 mark
 End date Correct calculation 1 mark
 Replication All 4 formulae 1 mark

Max 4 for different correct method: eg.
 COUNTIF 1 mark
 Correct range 1 mark
 Condition Month (J) 1 mark
 Extraction Winter - lookup or extraction 1 mark

K	
1	Full start date
2	=TEXT(B2," dd mmmmmmmm yyyy")&" ("&LOOKUP(D2,NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)&"")
3	=TEXT(B3," dd mmmmmmmm yyyy")&" ("&LOOKUP(D3,NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)&"")
4	=TEXT(B4," dd mmmmmmmm yyyy")&" ("&LOOKUP(D4,NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)&"")
5	=TEXT(B5," dd mmmmmmmm yyyy")&" ("&LOOKUP(D5,NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)&"")
6	=TEXT(B6," dd mmmmmmmm yyyy")&" ("&LOOKUP(D6,NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)&"")
7	=TEXT(B7," dd mmmmmmmm yyyy")&" ("&LOOKUP(D7,NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)&"")
8	
9	
10	

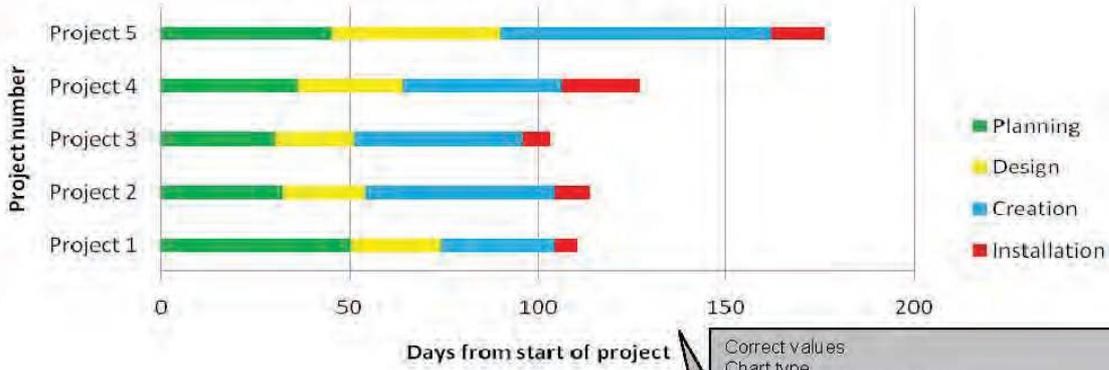
Months		
Subtract both year functions	Year only	1 mark
Correct brackets		1 mark
Multiply by 12		1 mark
Add	End month	1 mark
Subtract	Start month	1 mark

Full start date		
Text	Correct function	1 mark
Reference	Correct cell	1 mark
Space	Included after ref	1 mark
Day portion	Correct format	1 mark
Month portion	Correct format	1 mark
Year portion	Correct format	1 mark
Concatenate	or &	1 mark
	" ("	1 mark
Lookup	Function used	1 mark
Reference	Correct cell	1 mark
Range	External	1 mark
Range	External	1 mark
Concatenate	or &	1 mark
	"")	1 mark

L		M	
1	Months		
2	=(YEAR(J2)-YEAR(B2))*12+MONTH(J2)-MONTH(B2)	=LOOKUP(MONTH(J2),NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)	
3	=(YEAR(J3)-YEAR(B3))*12+MONTH(J3)-MONTH(B3)	=LOOKUP(MONTH(J3),NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)	
4	=(YEAR(J4)-YEAR(B4))*12+MONTH(J4)-MONTH(B4)	=LOOKUP(MONTH(J4),NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)	
5	=(YEAR(J5)-YEAR(B5))*12+MONTH(J5)-MONTH(B5)	=LOOKUP(MONTH(J5),NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)	
6	=(YEAR(J6)-YEAR(B6))*12+MONTH(J6)-MONTH(B6)	=LOOKUP(MONTH(J6),NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)	
7	=(YEAR(J7)-YEAR(B7))*12+MONTH(J7)-MONTH(B7)	=LOOKUP(MONTH(J7),NXMonth.csv!\$A\$1:\$A\$12,NXMonth.csv!\$B\$1:\$B\$12)	

Comment [G1]: New function

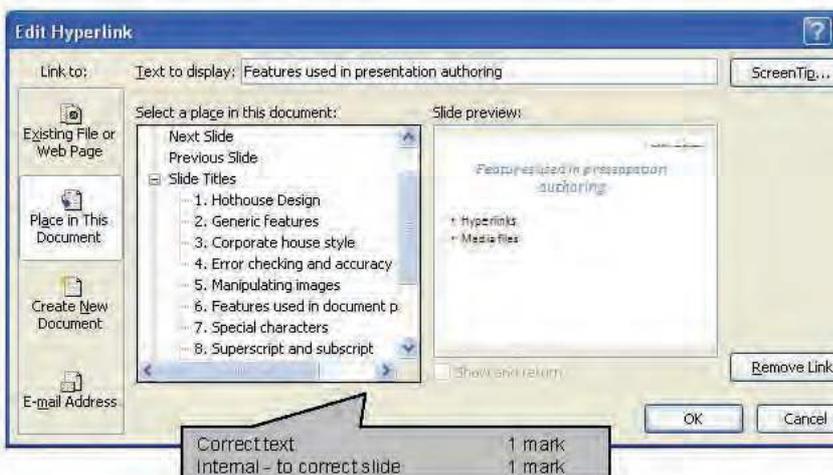
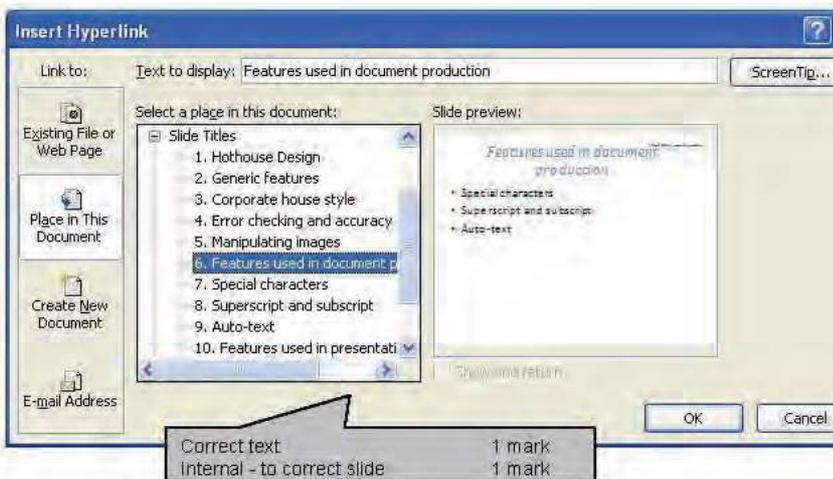
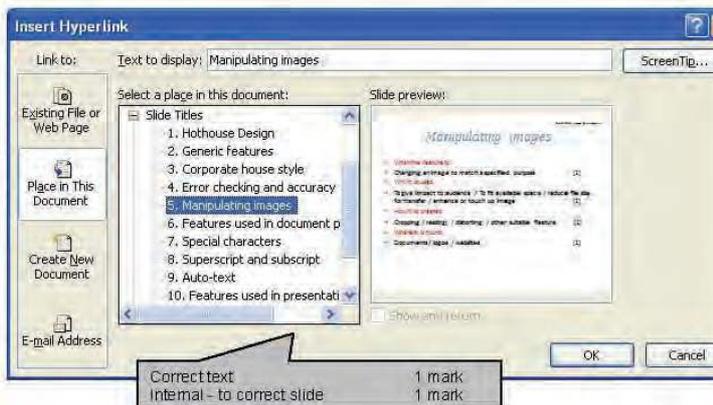
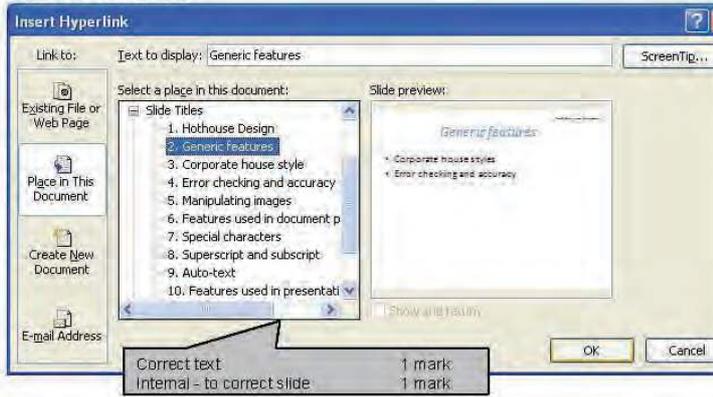
Analysis of projected number of days for each stage of the Olympic projects

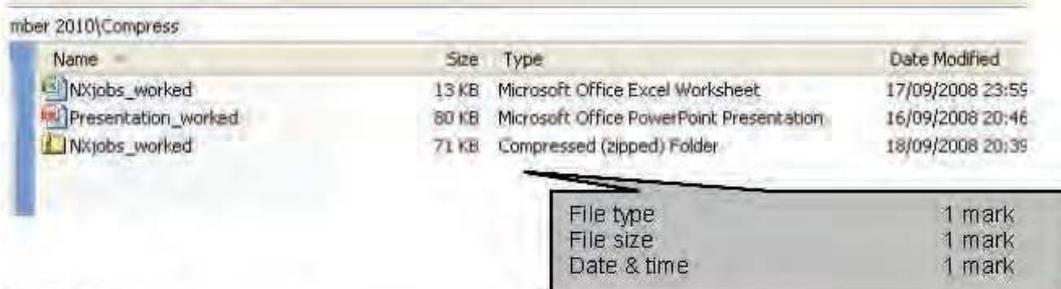
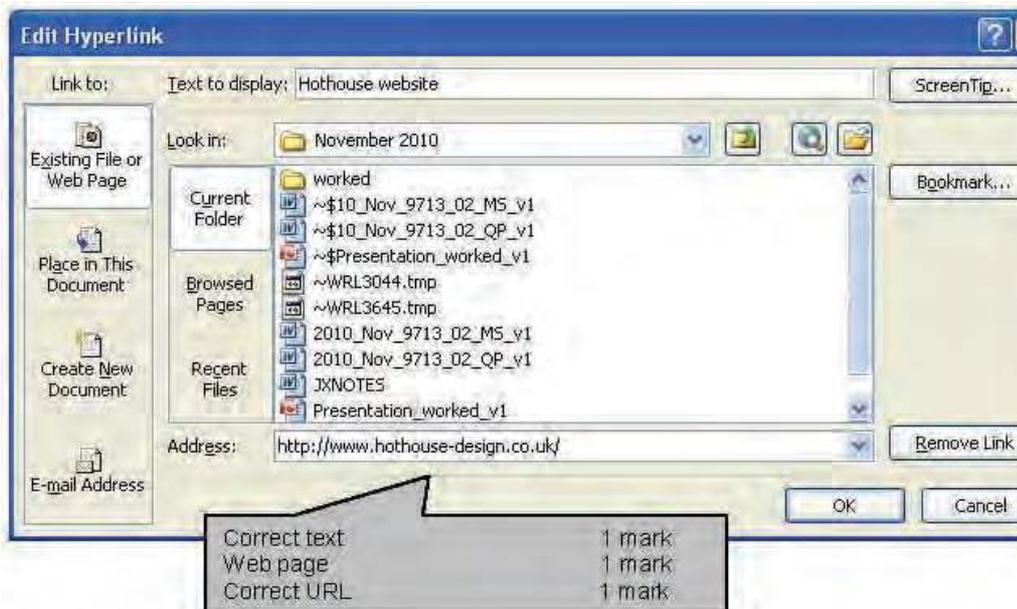


Correct values	2 marks
Chart type	
Appropriate (Stacked bar)	2 marks
Category Axis	
Project 1 etc	1 mark
Meaningful & appropriate axis label	1 mark
Value Axis	
Meaningful & appropriate axis label	1 mark
Chart Title	
Meaningful & appropriate chart title	1 mark
Title of appropriate size	1 mark
Name & numbers	1 mark
Legend or series labels	
Visible, correct and appropriate	1 mark

Name, centre number & candidate number

Evidence document





Step 30

Reasons for compression:

- Reduce transmission time for files
- For e-mail attachments / file transfer using network / internet
- Server space / reduce storage space for files

2 from Max

Example candidate response – grade A

Planning time for projects

Estimated Production dates	Start date	Day	Month	Year	Planning	Design	Creation	Installation	End date	Full start date	Months
Project 1	28/11/10	28	11	2010	50	24	30	6	18/03/11	18/03/11 (Spring)	8
Project 2	16/10/10	16	10	2010	32	22	50	10	07/02/11	07/02/11 (Winter)	8
Project 3	02/11/10	2	11	2010	30	21	45	7	13/02/11	13/02/11 (Winter)	9
Project 4	30/11/10	30	11	2010	36	28	42	21	06/04/11	06/04/11 (Spring)	7
Project 5	01/12/10	1	12	2010	45	45	72	14	26/05/11	26/05/11 (Spring)	7
Project 6	02/12/09	2	12	2009					23/06/10	23/06/10 (Summer)	6
End dates during a weekend											
	2										

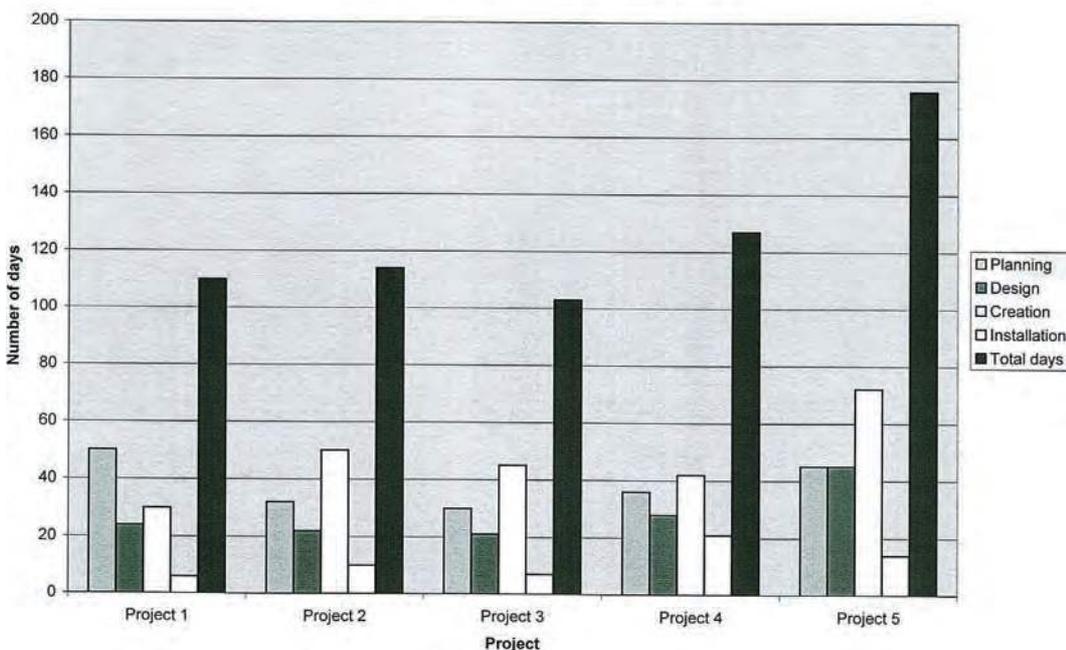
Formulae and functions used

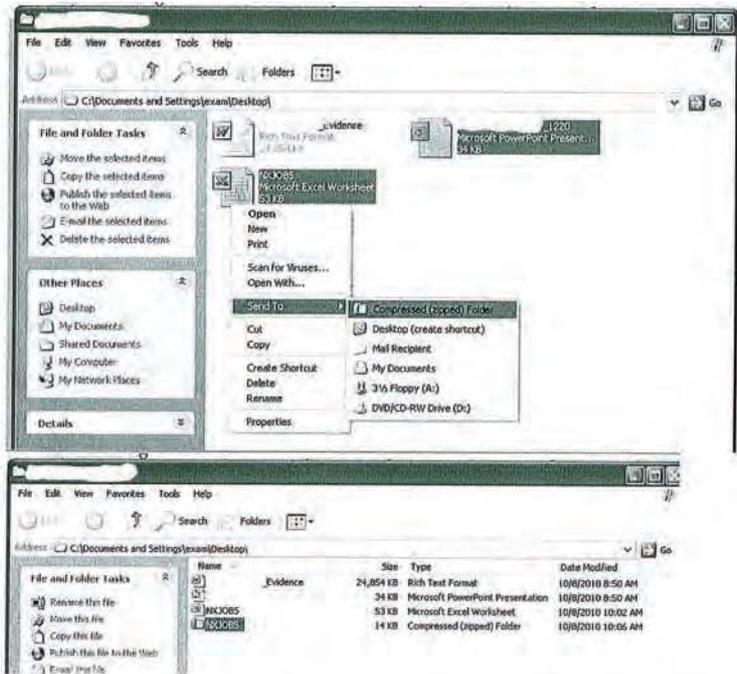
Estimated Production dates	Start date	Day	Month	Year	Planning	Design	Creation	Installation	End date
Project 1	40510	=DAY(B2)	=MONTH(B2)	=YEAR(B2)	50	24	30	6	=(B2+(SUM(F2:I2)))
Project 2	40467	=DAY(B3)	=MONTH(B3)	=YEAR(B3)	32	22	50	10	=(B3+(SUM(F3:I3)))
Project 3	40484	=DAY(B4)	=MONTH(B4)	=YEAR(B4)	30	21	45	7	=(B4+(SUM(F4:I4)))
Project 4	40512	=DAY(B5)	=MONTH(B5)	=YEAR(B5)	36	28	42	21	=(B5+(SUM(F5:I5)))
Project 5	40513	=DAY(B6)	=MONTH(B6)	=YEAR(B6)	45	45	72	14	=(B6+(SUM(F6:I6)))
Project 6	40149	=DAY(B7)	=MONTH(B7)	=YEAR(B7)					40352
End dates during a weekend									
	=COUNTIF(K2:K7,"Winter")								

Formulae and functions used

Full start date	Months
=CONCATENATE(TEXT(J2,"dd/mm/yy")," ("&VLOOKUP(MONTH(J2),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE),""))	=(D2-MONTH(J2))
=CONCATENATE(TEXT(J3,"dd/mm/yy")," ("&VLOOKUP(MONTH(J3),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE),""))	=(D3-MONTH(J3))
=CONCATENATE(TEXT(J4,"dd/mm/yy")," ("&VLOOKUP(MONTH(J4),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE),""))	=(D4-MONTH(J4))
=CONCATENATE(TEXT(J5,"dd/mm/yy")," ("&VLOOKUP(MONTH(J5),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE),""))	=(D5-MONTH(J5))
=CONCATENATE(TEXT(J6,"dd/mm/yy")," ("&VLOOKUP(MONTH(J6),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE),""))	=(D6-MONTH(J6))
=CONCATENATE(TEXT(J7,"dd/mm/yy")," ("&VLOOKUP(MONTH(J7),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE),""))	=(D7-MONTH(J7))

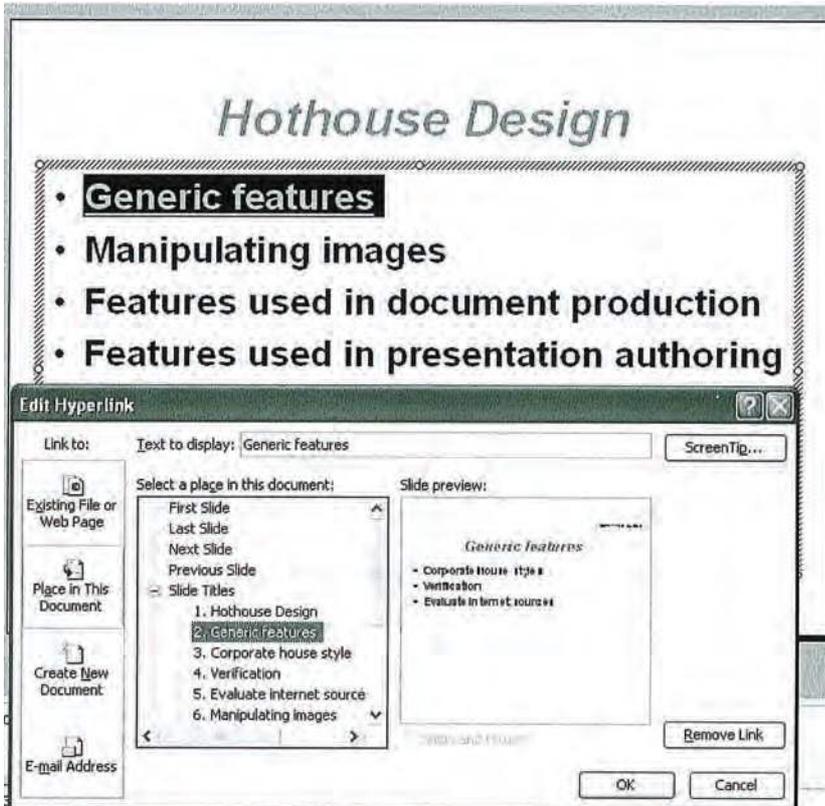
Days planned for each stage of the projects

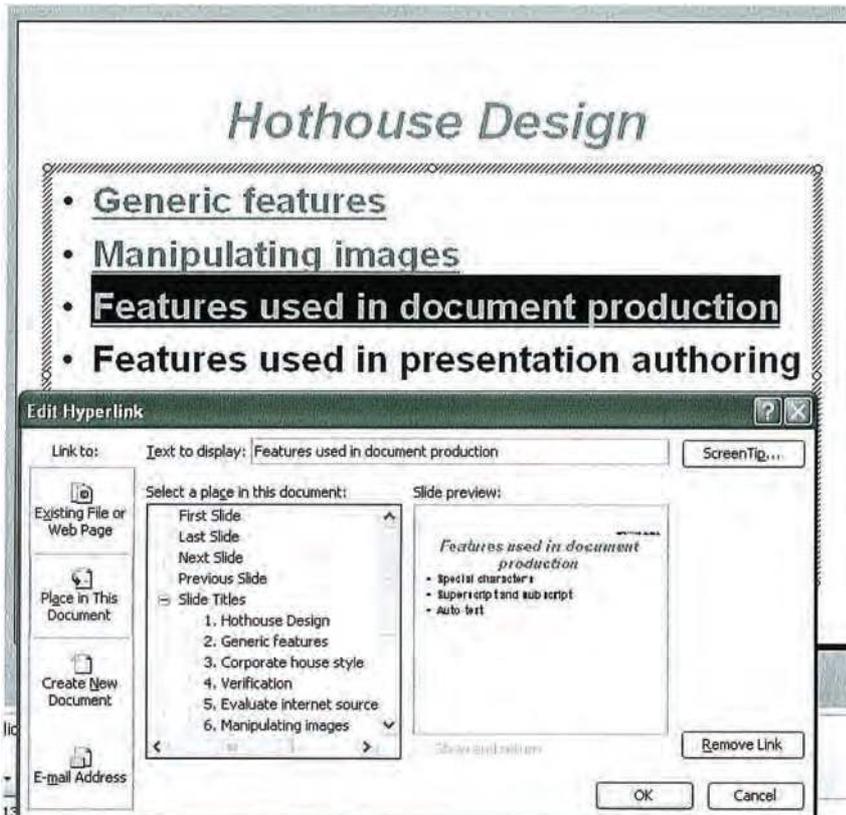
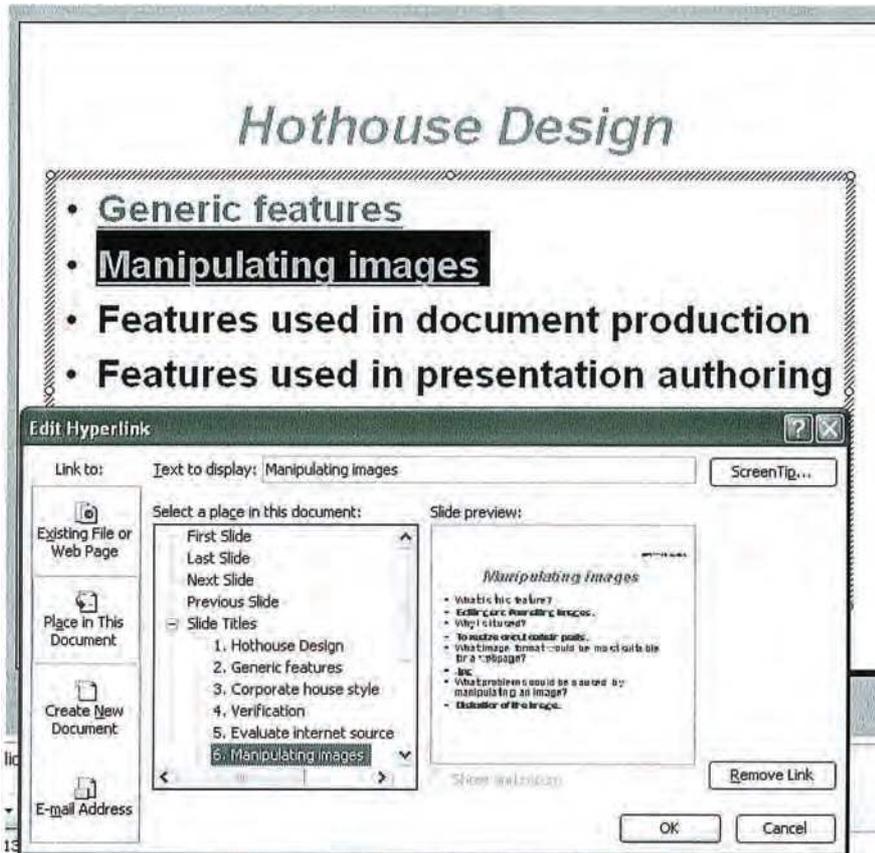


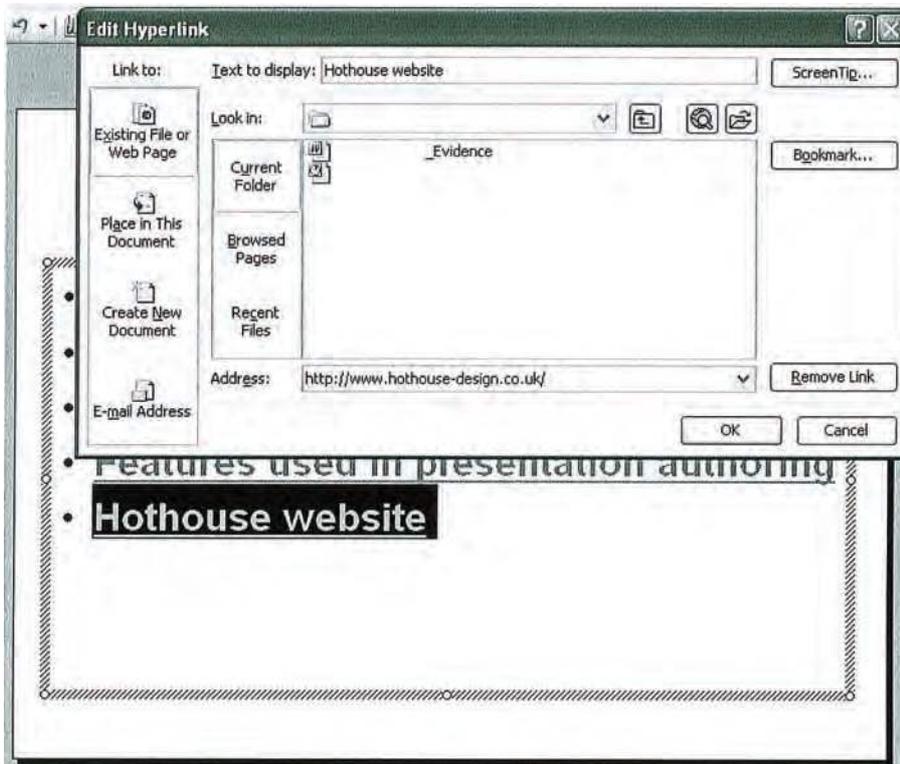
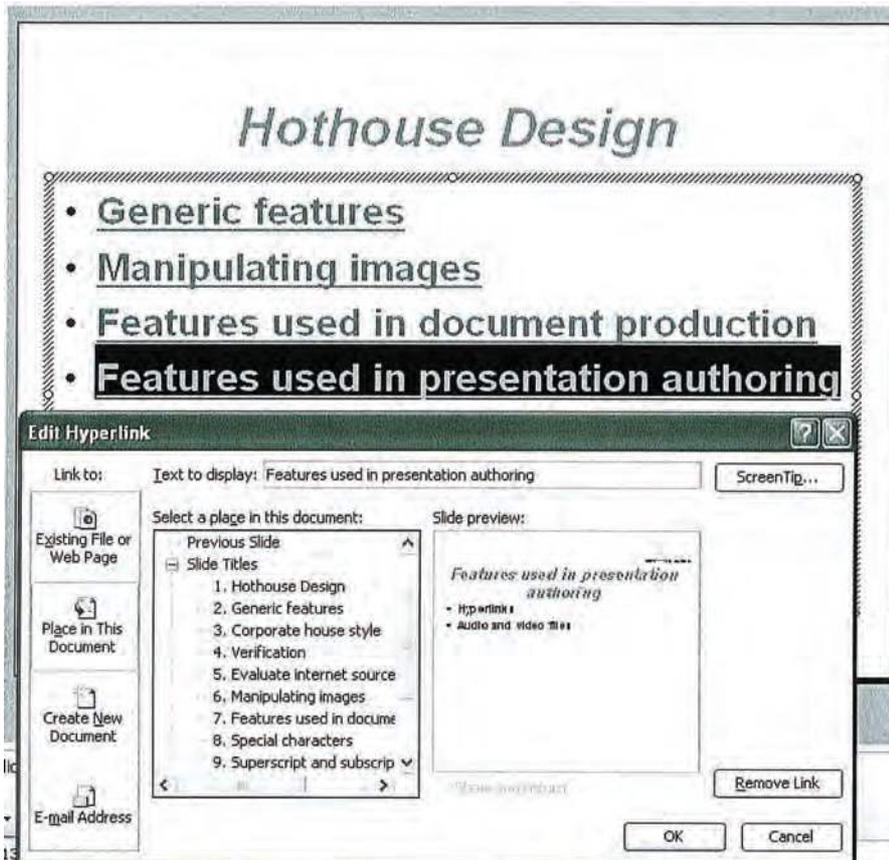


To stop viruses inserting macros code into the work because both Excel and PowerPoint can execute macros.

Compression would make the documents easier to email.







Examiner comment

Spreadsheet

The initial values printout of the spreadsheet scored fifteen of the seventeen available marks. The header was 100% correct and the spreadsheet excerpt was made to fit a single page. All data and labels were fully visible. There was evidence that row 2 had been deleted as specified, this was also verified in the cell references examined in the formulae printout. Six marks were awarded for the correct data entry, relating to the dates entered into the spreadsheet. A blank row 8 was inserted in the correct place and the data label 'Project 6' was also entered with 100% accuracy, and the word 'Advertisement' was globally changed to 'Project' for the other 5 rows in the sheet. The candidate was required to enter the date, 23rd July 2010, into cell J7 but translated this to the month of June when entering 23/06/10 and was awarded no mark for this. The 'Start date' and 'End date' columns were formatted as specified but the 'Full start date' column did not have the full start date formatted as specified in step 21. The candidate name, Centre number and candidate number were placed in the footer of the spreadsheet.

The printout of the formulae and functions used had the header correctly edited and the orientation of the page set to landscape. The printout does not contain any evidence of row and column headings, which cost the candidate two potential marks. All of the formulae and labels are fully visible and all three formulae placed in the 'Day', 'Month' and 'Year' columns performed their task efficiently. The calculation entered by this candidate into the 'End date' column also worked as specified and the mixed use of addition and sum, although not the most efficient solution was worthy of full marks.

The function used to count the number of end dates during the weekend was well structured and efficient. This candidate made a very good attempt to produce the correct results for the 'Full start date'. All calculations (including the concatenation of strings) for this date were completed as required but the format of 'dd/mm/yy' was incorrect as step 21 gave the example of '01 January 2010 (Winter)' which required text formatting for 'dd mmmmmmmm yyyy'. The calculation for the 'Months' column did not take into account the month and year data and perform a calculation using this. Although the candidate had subtracted one month from another they had taken the end date from the start date, rather than the start date from the end date. This column gained no marks.

Chart

The data series selected for the production of this chart contains the total days for each of the projects. Of the two marks available, a single mark was awarded for this extra data series. No marks were awarded for the selection of the correct chart type. As the correct data series represented a linear time line with four component parts a stacked bar chart was the most appropriate chart type, no marks were awarded for the vertical bar chart. Full marks were awarded for labelling the chart, both title and axis labels were meaningful and appropriate to the data presented. Although the contents of the title were appropriate, it was not an appropriate size when compared to the axis labels. The candidate name and number were placed in the footer of the page rather than on the chart as specified in the question paper. A final mark was awarded for the correct inclusion of a legend identifying each data series.

Evidence document

All of the hyperlinks were created as specified and scored full marks. Each of the three internal hyperlinks was from the correct text and connected to the correct slide. The hyperlink from the text 'Hothouse website' linked to the correct external URL. The screenshot containing evidence that the two specified files had been added to a compressed (zipped) file gained the candidate two marks and was exemplary. The screen shot showing the evidence of the filenames, types, sizes and date and time of saving was also an excellent example gaining full marks for this section. All of the required data was clearly visible. A maximum of two marks could be attained for explaining the underpinning theory behind zipping files, one mark was attained as a benefit of the doubt for the first answer of stopping viruses because of macros and other executable elements in the packages described, although the use of package names rather than generic names for the application packages does weaken this answer. Although this answer is not in the mark scheme it

was deemed an appropriate response to the question and was therefore awarded. The second candidate response of making documents easier to email is incorrect. If this candidate had continued the answer to discuss file size related to transmission time they would have gained this mark.

Example candidate response – grade C

Planning time for projects

Estimated Production dates	Start date	Day	Month	Year	Planning	Design	Creation	Installation	End date	Full start date	Months
Project 1	28/11/10	28	11	2010	50	24	30	6	18/03/11	Autumn	4
Project 2	29/11/10	29	11	2010	32	22	50	10	23/03/11	Autumn	4
Project 3	30/11/10	30	11	2010	30	21	45	7	13/03/11	Autumn	4
Project 4	01/12/10	1	12	2010	36	28	42	21	07/04/11	Winter	5
Project 5	02/12/10	2	12	2010	45	45	72	14	27/05/11	Winter	6
Project 6	03/12/10	3	12	2010							

End dates during a weekend
2

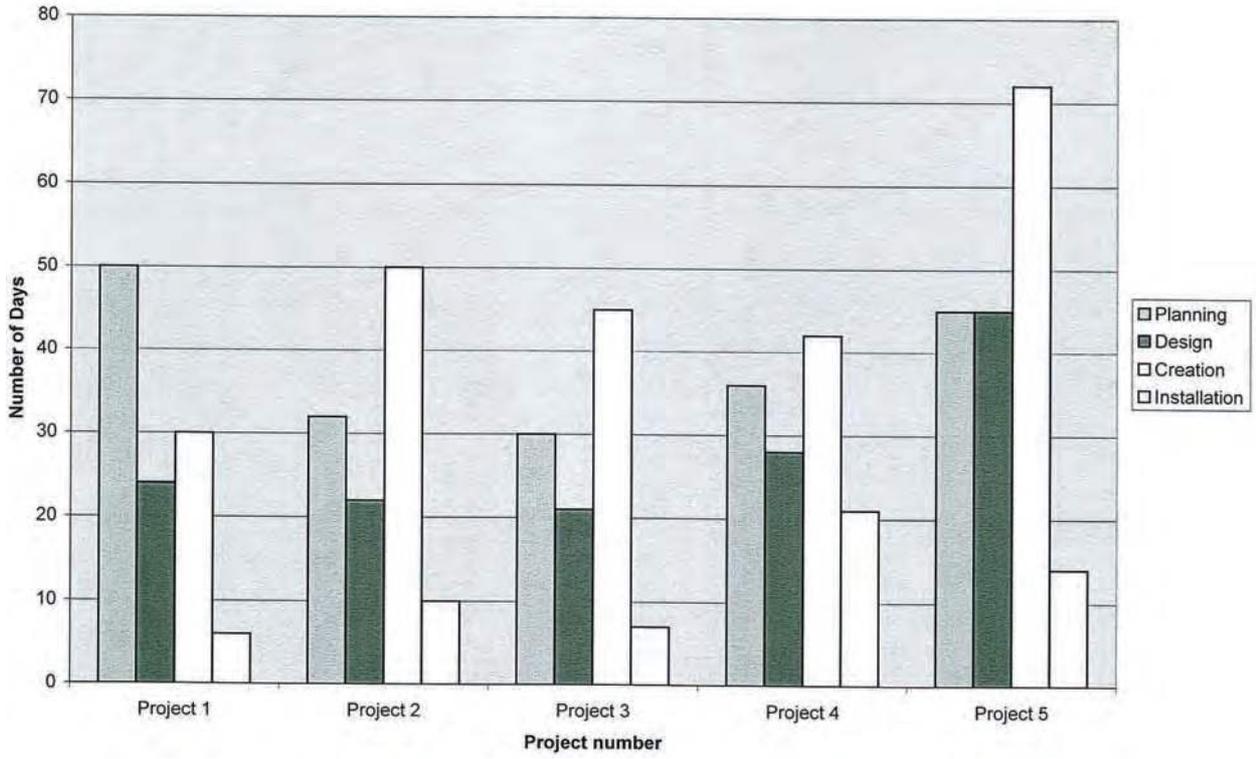
Formulae and Functions used

	A	B	C	D	E	F	G	H	I	J
1	Estimated Production dates	Start date	Day	Month	Year	Planning	Design	Creation	Installation	End date
2	Project 1	40510	=DAY(B2)	=MONTH(B2)	=YEAR(B2)	50	24	30	6	=B2+F2+G2+H2+I2
3	Project 2	40511	=DAY(B3)	=MONTH(B3)	=YEAR(B3)	32	22	50	10	=B3+F3+G3+H3+I3
4	Project 3	40512	=DAY(B4)	=MONTH(B4)	=YEAR(B4)	30	21	45	7	=B4+F4+G4+H4+I4
5	Project 4	40513	=DAY(B5)	=MONTH(B5)	=YEAR(B5)	36	28	42	21	=B5+F5+G5+H5+I5
6	Project 5	40514	=DAY(B6)	=MONTH(B6)	=YEAR(B6)	45	45	72	14	=B6+F6+G6+H6+I6
7	Project 6	40515	=DAY(B7)	=MONTH(B7)	=YEAR(B7)					
8										
9	End dates during a weekend									
10	=COUNTIF(K2:K6,"Winter")									

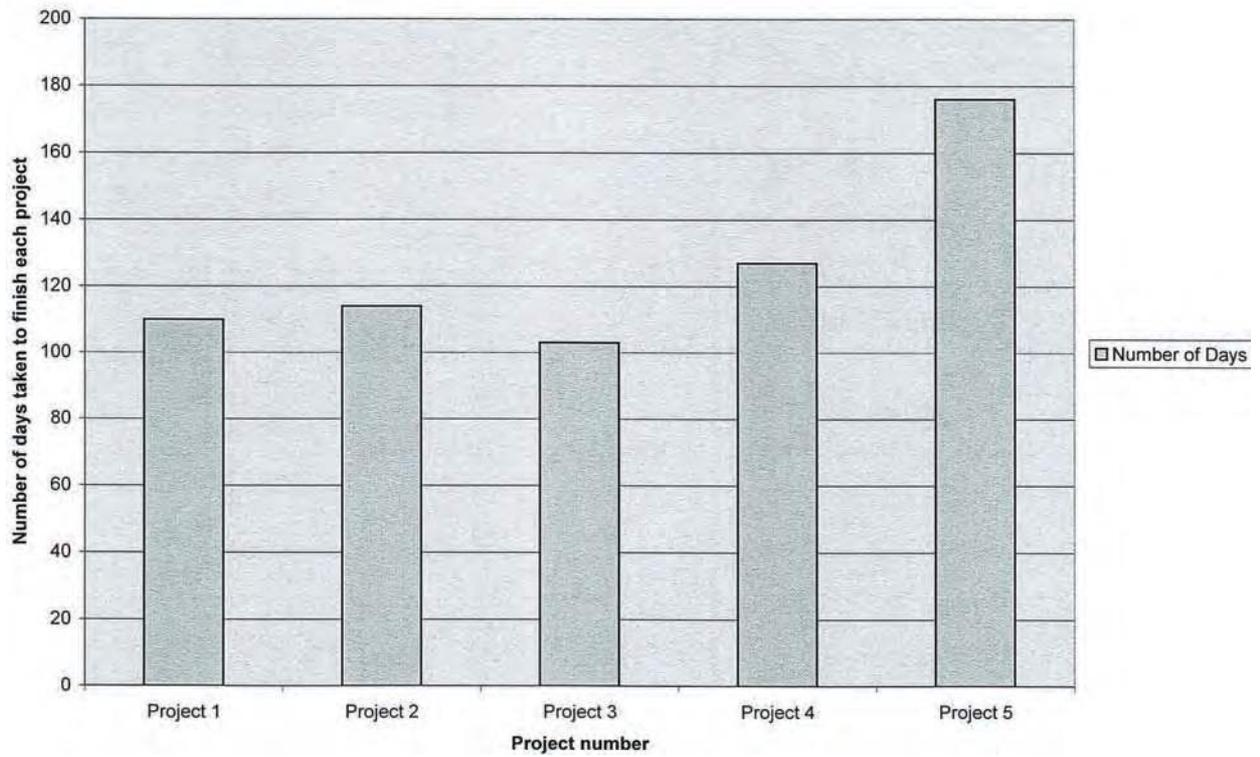
Formulae and Functions used

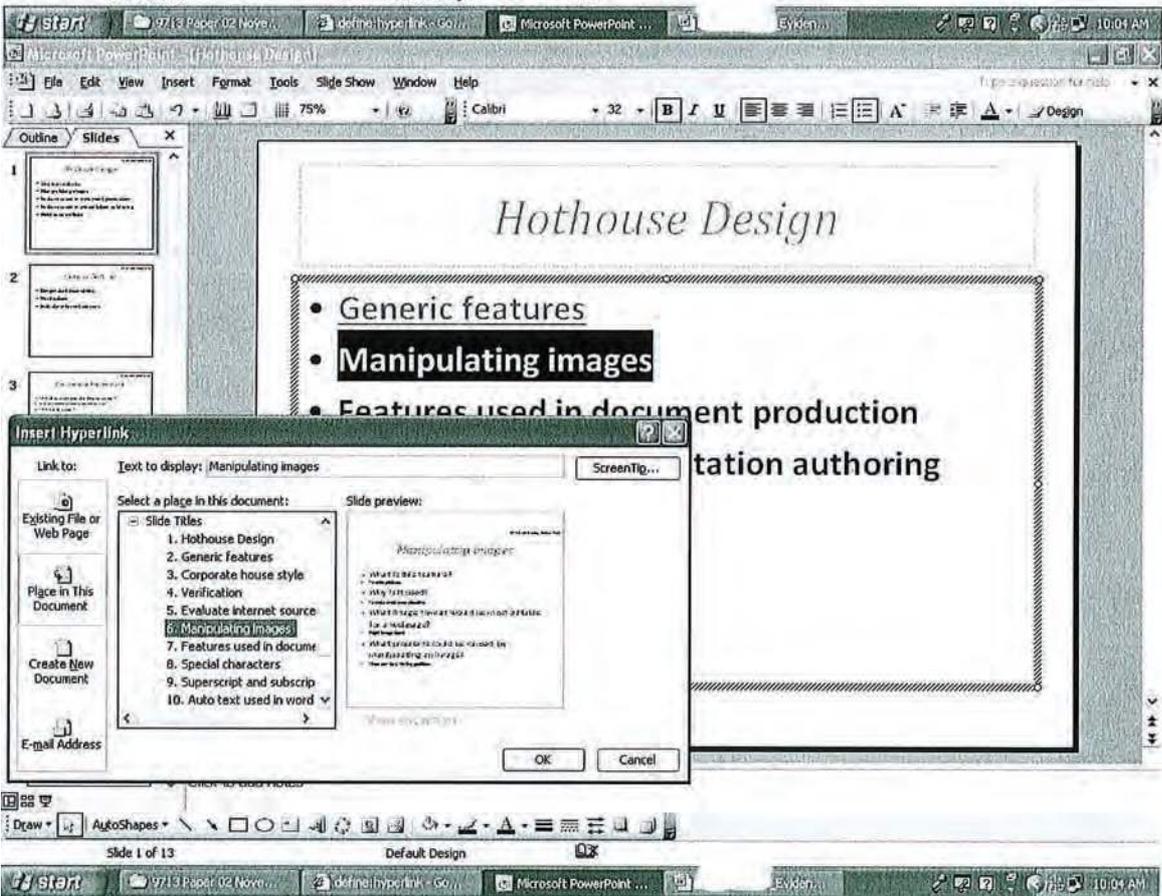
	K	L
1	Full start date	Months
2	=VLOOKUP(MONTH(B2),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE)	=MONTH(J2-B2)
3	=VLOOKUP(MONTH(B3),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE)	=MONTH(J3-B3)
4	=VLOOKUP(MONTH(B4),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE)	=MONTH(J4-B4)
5	=VLOOKUP(MONTH(B5),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE)	=MONTH(J5-B5)
6	=VLOOKUP(MONTH(B6),NXMONTH.csv!\$A\$1:\$B\$12,2,FALSE)	=MONTH(J6-B6)
7		
8		
9		
10		

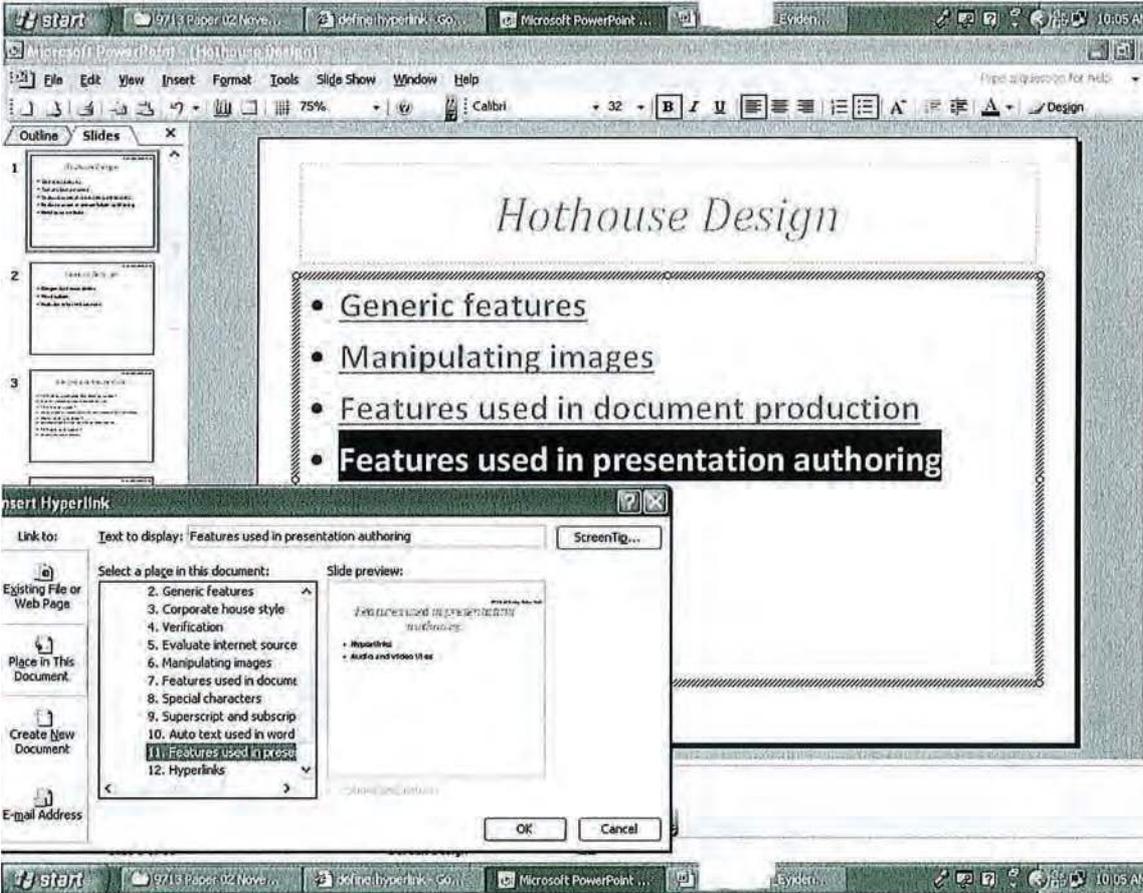
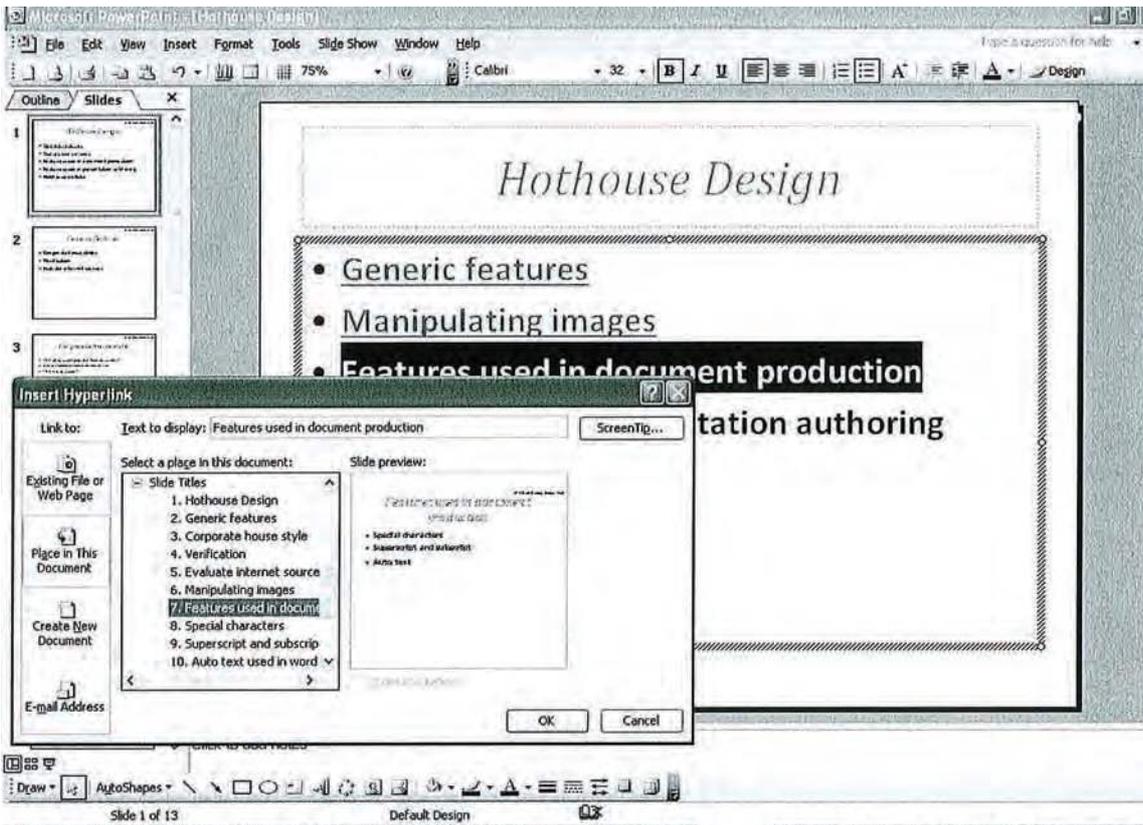
Number of Days and Project number

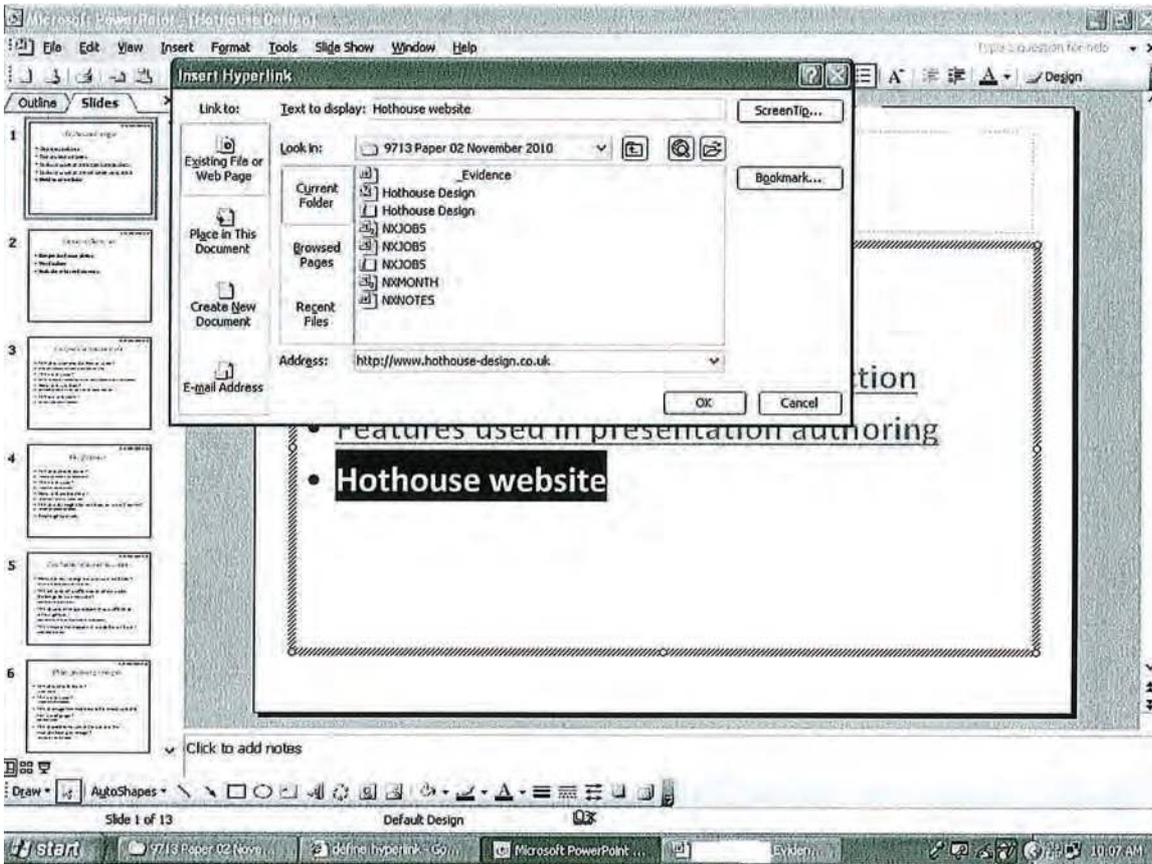


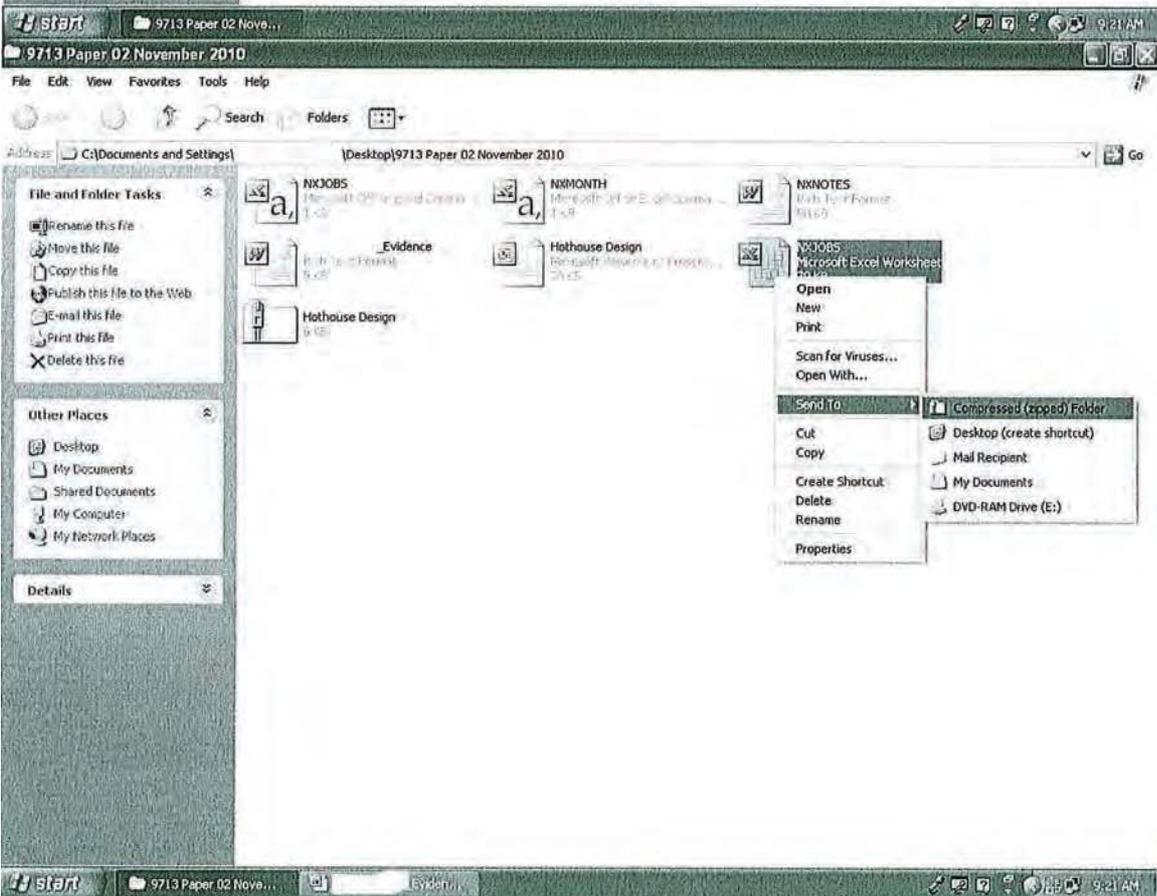
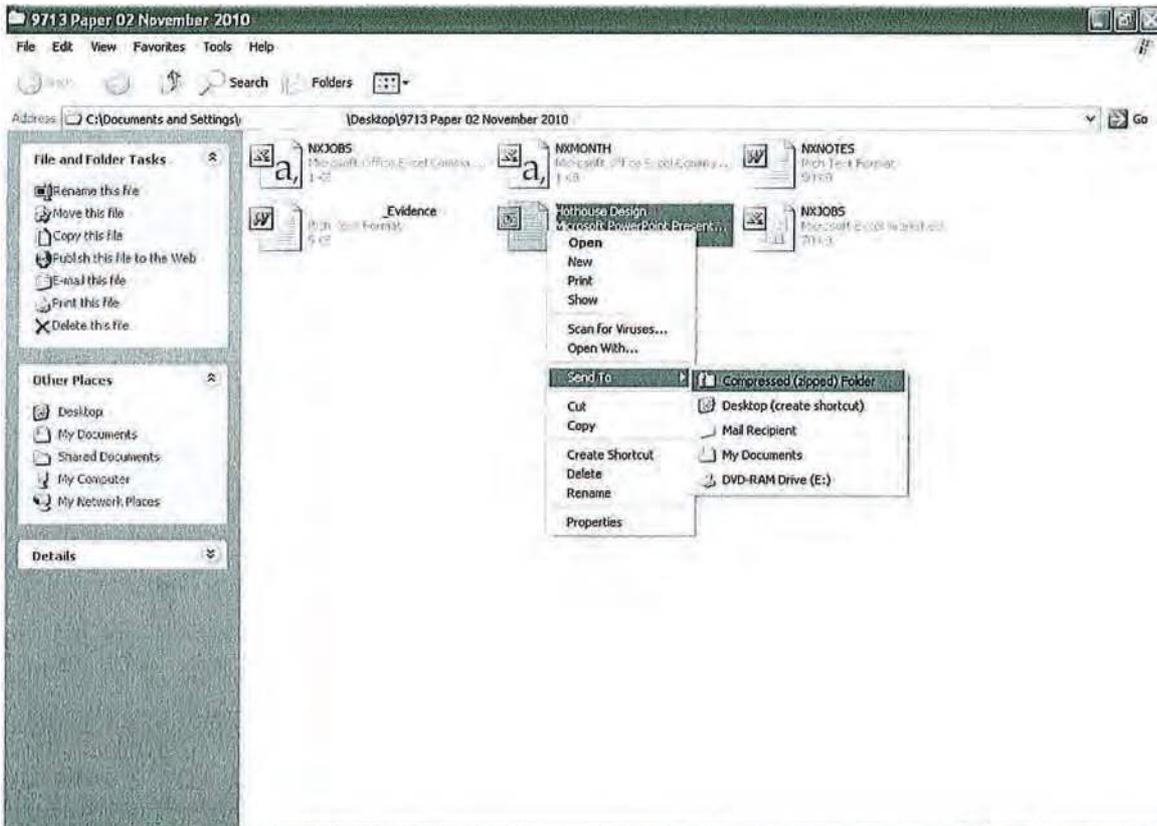
Number of days and Project number

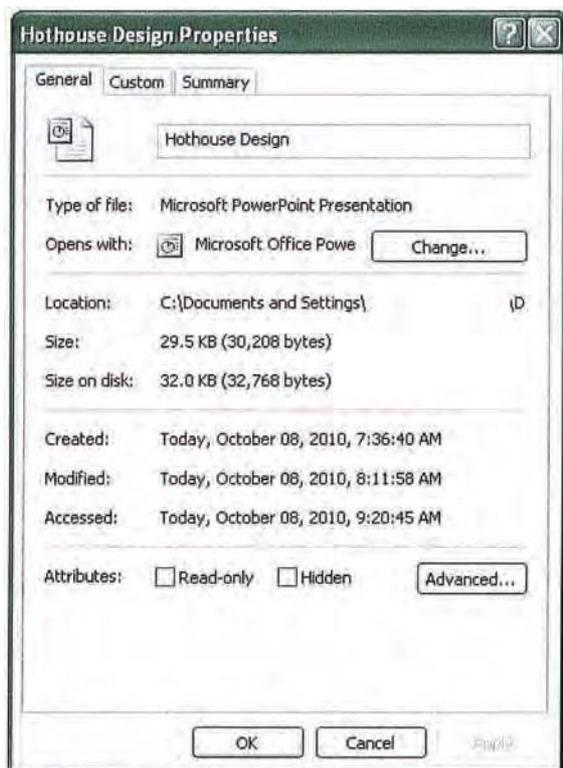
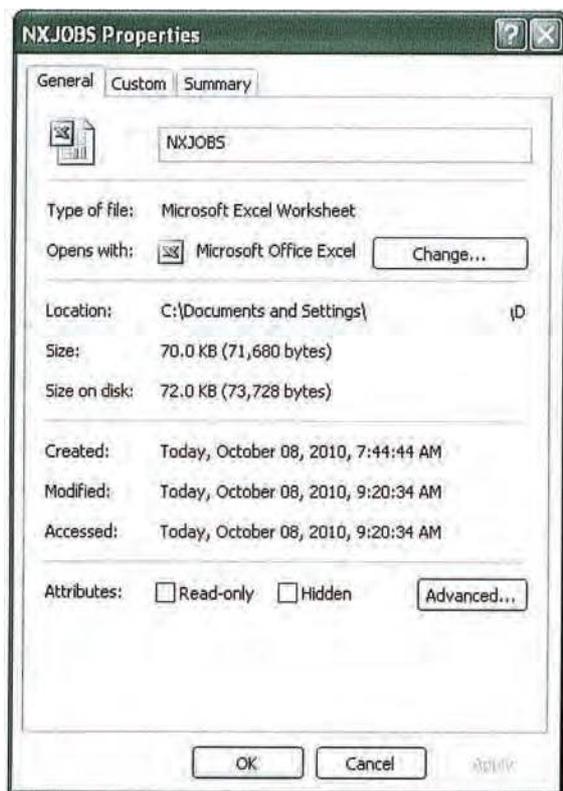












The purpose of compressing files is:

To save space

It takes less time to upload onto the internet, for example as an attachment in email therefore consumes fewer resources when accessing data.

Examiner comment

Spreadsheet

The initial values printout of the spreadsheet scored ten of the seventeen available marks. The header was 100% correct and the spreadsheet excerpt was made to fit a single page. All data and labels were full visible. There was evidence that row 2 had been deleted as specified, this was also verified in the cell references examined in the formulae printout. Only one of the six marks was awarded for the correct data entry, with the first cell being entered as specified but replicated to give dates for the next five days rather than the dates specified in the question paper. A blank row 8 was inserted in the correct place and the data label 'Project 6' was also entered with 100% accuracy, and the word 'Advertisement' was globally changed to 'Project' for the other 5 rows in the sheet. The candidate was required to enter the date 23rd July 2010 into cell J7 but this was omitted. The 'Start date' and 'End date' columns were formatted as specified but the 'Full start date' column contained only the name of the season rather than the full start date and the name of the season. The candidate name, Centre number and candidate number were placed in the footer of the spreadsheet.

The printout of the formulae and functions used had the header incorrectly edited (there is a case error) but the orientation of the page is set to landscape which gained a mark. The printout contains evidence of row and column headings, so a further two marks were awarded. All of the formulae and labels are fully visible and all three formulae placed in the 'Day', 'Month' and 'Year' columns performed their task efficiently. The calculation entered by this candidate into the 'End date' column also worked as specified using repeated addition statements, although not the most efficient solution was worthy of full marks.

The function used to count the number of end dates during the weekend was well structured and efficient and although this gave an incorrect answer it was a consequential follow through error, so full marks were awarded. This candidate made no visible attempt to create a formatted full start date as shown in the question paper, but did use a lookup function with the correct cell references within the month function, and with the correct external file and references. The formulae used to calculate the months showed some understanding in that the correct cells for subtraction of the months were identified and used. However this candidate did not demonstrate any understanding that the year portion of the dates may have an impact upon the results, particularly where the duration of a task ran from one year into the next.

Chart

The data series selected for the production of this chart was 100% correct and gained the two marks available. No marks were awarded for the selection of the correct chart type. As the correct data series represented a linear time line with four component parts a stacked bar chart was the most appropriate chart type, no marks were awarded for the vertical bar chart. Full marks were awarded for labelling the chart, both title and axis labels were meaningful and appropriate to the data presented. The contents of the title were appropriate and the title was of appropriate size when compared to the axis labels. The candidate name and number were placed in the header of the page rather than on the chart as specified in the question paper. A final mark was awarded for the correct inclusion of a legend identifying each data series. This candidate included a second chart in the submission. As one submission (the first) had already been identified, and no evidence that either printout was a copy not to be marked (for example by crossing it through) this printout was not considered for marking by the examiner.

Evidence document

Full marks were scored by this candidate on this section. All of the hyperlinks were created as specified and scored full marks. Each of the three internal hyperlinks was from the correct text and connected to the correct slide. The hyperlink from the text 'Hothouse website' linked to the correct external URL. The screenshot containing evidence that the two specified files had been added to a compressed (zipped) file gained the candidate twpmarks and was exemplary. The screen shot showing the evidence of the filenames, types, sizes and date and time of saving was also an excellent example gaining full marks for this section. All of the required data was clearly visible. A maximum of two marks was attained for explaining the underpinning theory behind zipping files.

Example candidate response – grade E

Planning time for projects

Estimated Production dates	Start date	Day	Month	Year	Planning	Design	Creation	Installation	End date	Full start date	Months
project 1	28/11/2010	✓	28	11 2010	50	24	30	6	20/01/00	Autumn	40490
Project 2	16/10/2010	✓	16	10 2010	32	22	50	10	16/01/00	Autumn	40451
Project 3	11/02/10	✓	11	2 2010	30	21	45	7	12/01/00	Winter	40208
Project 4	30/11/2010	✓	30	11 2010	36	28	42	21	08/01/00	Autumn	40504
Project 5	12/01/09	✗	12	1 2009	45	45	72	14	04/01/00	Winter	39821
Project 6	23/07/10	✗	23	7 2010							

End dates during a weekend



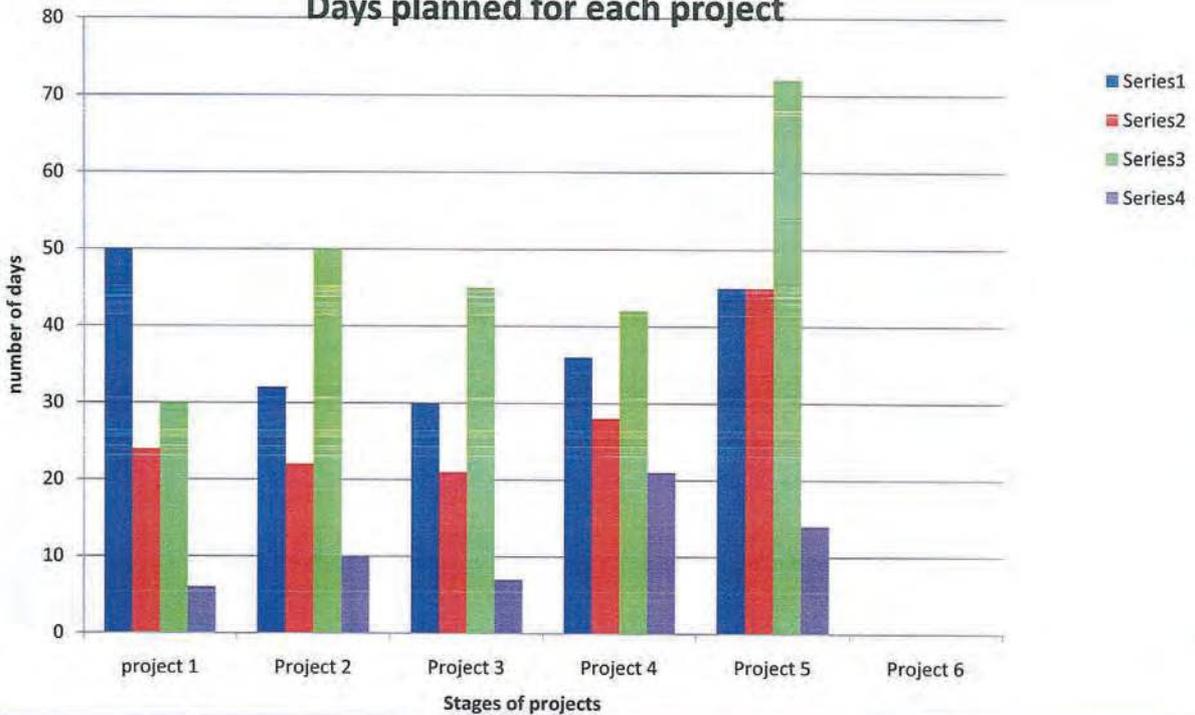
Formulae and functions used

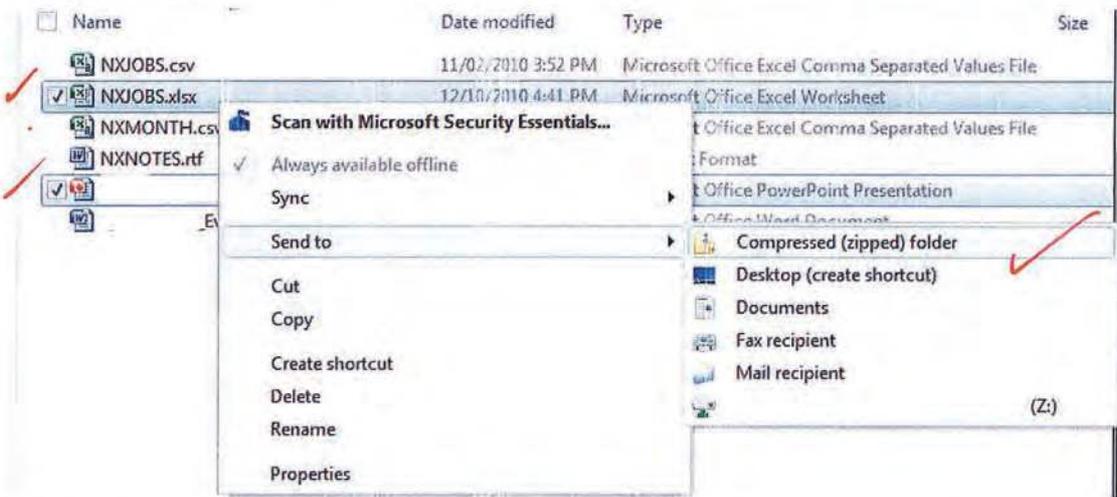
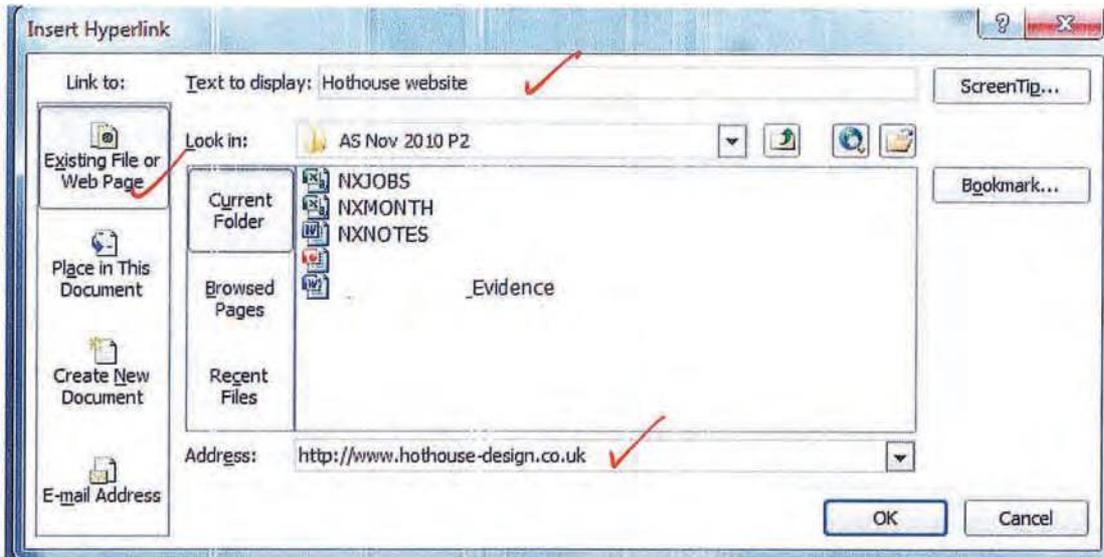
Estimated Production dates	Start date	Day	Month	Year	Planning	Design	Creation	Installation	End date	Full start date	Months
project 1	=VALUE(DAY(B2))	=VALUE(MONTH(B2))	=VALUE(YEAR(B2))	=COUNT(F2:H2)	=LOOKUP(D2:D8, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F2:F7)	=LOOKUP(D2:D8, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F4:F8)	=LOOKUP(D2:D8, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F5:F9)	=LOOKUP(D2:D8, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))
Project 2	=VALUE(DAY(B3))	=VALUE(MONTH(B3))	=VALUE(YEAR(B3))	=COUNT(F3:F7)	=LOOKUP(D3:D9, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F3:F8)	=LOOKUP(D3:D9, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F4:F9)	=LOOKUP(D3:D9, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F5:F10)	=LOOKUP(D3:D9, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))
Project 3	=VALUE(DAY(B4))	=VALUE(MONTH(B4))	=VALUE(YEAR(B4))	=COUNT(F4:F8)	=LOOKUP(D4:D9, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F4:F9)	=LOOKUP(D4:D9, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F5:F10)	=LOOKUP(D4:D9, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F6:F11)	=LOOKUP(D4:D9, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))
Project 4	=VALUE(DAY(B5))	=VALUE(MONTH(B5))	=VALUE(YEAR(B5))	=COUNT(F5:F9)	=LOOKUP(D5:D10, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F5:F10)	=LOOKUP(D5:D10, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F6:F11)	=LOOKUP(D5:D10, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F7:F12)	=LOOKUP(D5:D10, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))
Project 5	=VALUE(DAY(B6))	=VALUE(MONTH(B6))	=VALUE(YEAR(B6))	=COUNT(F6:F10)	=LOOKUP(D6:D11, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F6:F11)	=LOOKUP(D6:D11, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F7:F12)	=LOOKUP(D6:D11, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F8:F13)	=LOOKUP(D6:D11, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))
Project 6	=VALUE(DAY(B7))	=VALUE(MONTH(B7))	=VALUE(YEAR(B7))	=COUNT(F7:F11)	=LOOKUP(D7:D12, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F7:F12)	=LOOKUP(D7:D12, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F8:F13)	=LOOKUP(D7:D12, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))	=COUNT(F9:F14)	=LOOKUP(D7:D12, ROWS(MONTH), av(SAS1\$B\$12, 2, 0))

End dates during a weekend
=COUNTIF(D2:H6, K4)



Days planned for each project





Name	Date modified	Type	Size
NXJOBS.csv	11/02/2010 3:52 PM	Microsoft Office Excel Comma Separated Values File	1 KB
NXJOBS.xlsx	12/10/2010 4:41 PM	Microsoft Office Excel Worksheet	15 KB
steps 7&25 compressed.zip	12/10/2010 4:43 PM	Compressed (zipped) Folder	55 KB
NXMONTH.csv	01/03/2009 2:07 PM	Microsoft Office Excel Comma Separated Values File	1 KB
NXNOTES.rtf	01/03/2009 11:59 ...	Rich Text Format	50 KB
_Evidence.pptx	12/10/2010 3:07 PM	Microsoft Office PowerPoint Presentation	61 KB
_Evidence.docx	12/10/2010 1:52 PM	Microsoft Office Word Document	12 KB

We compress these file to reduce the size of it and to keep it in a separate folder that will be easy to find.

Examiner comment

Spreadsheet

The initial values printout of the spreadsheet scored twelve of the seventeen available marks. The header was 100% correct and the spreadsheet excerpt was made to fit a single page. All data and labels were full visible. There was evidence that row 2 had been deleted as specified, this was also verified in the cell references examined in the formulae printout. Only four of the six marks was awarded for the correct data entry, with the first four cells being entered as specified, the fifth with the month and day reversed in the cell and an incorrect year entered. The final cell in the start date column contained the data expected at the bottom of the end date column. A blank row 8 was inserted in the correct place and the data label 'Project 6' was also entered with 100% accuracy, and the word 'Advertisement' was globally changed to 'Project' for

the other 5 rows in the sheet. The candidate was required to enter the date 23rd July 2010 into cell J7 but this was located in cell B7. The 'Start date' and 'End date' columns were not formatted as specified, in the start date column there were different date formats used. The 'Full start date' column contained only the name of the season rather than the full start date and the name of the season. The candidate name, Centre number and candidate number were placed in the footer of the spreadsheet.

The printout of the formulae and functions used had the header correctly edited and the orientation of the page is set to landscape which gained two marks. The printout does not contain evidence of row and column headings. All of the formulae and labels are fully visible and all three formulae placed in the 'Day', 'Month' and 'Year' columns performed their task efficiently. The calculation entered by this candidate into the 'End date' column did not work as the candidate attempted to count the number of occurrences rather than add the job durations to the start date. One mark was awarded for the correct replication of all formulae entered.

The function used to count the number of end dates during the weekend contained errors, the range specified did not cover all the available rows and the reference to the specified data was within the range and subject to change if other cells were amended. Only one of the four available marks was awarded for this function. This candidate made no visible attempt to create a formatted full start date as shown in the question paper, but did use a lookup function, although with incorrect correct cell references (a range was specified) but with the correct referencing to the external file. The formulae used to calculate the months did not show any understanding of the need to use functions to select the months and years, nor did this candidate demonstrate any understanding that the year portion of the dates may have an impact upon the results, particularly where the duration of a task ran from one year into the next.

Chart

The data series selected for the production of this chart was incorrect as it also contained an additional column for Project 6. No marks were awarded for the selection of the correct chart type. As the correct data series represented a linear time line with four component parts a stacked bar chart was the most appropriate chart type, no marks were awarded for the vertical bar chart. Full marks were awarded for labelling of the category axis, but not for the labelling of the value axis. The initial capitalisation of the text was different in both cases. The chart title was not deemed detailed enough to be awarded the mark, it is vital that chart titles give the reader as much information about the purpose of the chart as possible. The chart title was of appropriate size when compared to the axis labels. The candidate name and number were placed in the header of the page rather than on the chart as specified in the question paper. A final mark was not awarded for the correct inclusion of a legend identifying each data series as the candidate had selected the default series labels series 1, series 2, etc.

Evidence document

Eleven marks were allocated to correctly setting up the hyperlinks. There was no evidence presented for three of the four slides which should have contained hyperlinks. On the fourth slide, where the screen shot evidence was present, all three marks were awarded as the candidate had created the hyperlink from the text 'Hothouse website' linked to the correct external URL. The screenshot containing evidence that the two specified files had been added to a compressed (zipped) file gained the candidate two marks and was exemplary. The screen shot showing the evidence of the filenames, types, sizes and date and time of saving was also an excellent example gaining full marks for this section. All of the required data was clearly visible. The candidate responses to the reasons for compression did mention reducing the file size, in this case the candidate was given the benefit of the doubt for this answer but the second part of their answer about the file being easy to find was not worthy of a mark.

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