

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										



General Certificate of Secondary Education

Information and Communication Technology

45203/CB1

Unit 3 Practical Problem Solving in ICT

Candidate Booklet: Problem 1

Valid for examination in 2011, 2012 and 2013

- It is recommended that you spend 25 hours in completing this problem.
- Before starting work on the problem, read the whole of this Candidate Booklet thoroughly.
- There are restrictions on when and where you can work on this problem. Your teacher will explain them to you. For example, you can only do any work that you intend to hand in for marking when a teacher is present, so that he or she can confirm that the work is your own.
- You must not work with other students on anything that you intend to hand in for marking.

Communicating your written work

- You will also be marked on your use of English. It is important to:
 - make sure that all your work is legible
 - use correct spelling, punctuation and grammar
 - use a style of writing which suits the person you are writing it for
 - organise your information clearly, so that you make yourself understood
 - use ICT terms where they are needed.

45203/CB1

Unit 3: Practical Problem Solving in ICT

Problem 1: Help to organise a school visit to a local attraction

Your school regularly plans to organise a visit to a local attraction for students. You are going to produce a solution to the problem but you can make up the data that you need.

1. Overview of the problem:

You must help the organiser of the visit by producing a practical ICT solution which will improve the running of the visit to a local attraction. Your solution will contain several parts (see section 6). The visit always includes lunch at the venue's restaurant/café. You must also explain what you have produced to the Headteacher of the school.

2. You must provide an ICT solution that will help the organiser:

- model the cost to students who are going on the visit. You will need to gather information in order to do this.
- gather information about students who are planning to go on the visit. The organiser will need to know their personal and contact details, information about any medical conditions and access issues. You will have to find a way of collecting and storing this information.
- contact parents/guardians to inform them of specific details about the visit.
- record which students have paid the full amount that they owe for the visit by the deadline date. The organiser must be able to remind parents/guardians of any student who has not paid in full and how much remains to be paid.
- generate lists to use both before and during the visit.

Your teacher will provide you with some background information about a school visit to a local attraction.

In addition:

The Headteacher of your school wants you to produce a report that provides key facts about how your ICT solution helps to organise the visit to a local attraction. The report can either be paper based or electronic. An electronic report might be prepared using a presentation program with supporting notes, if needed. The report must include all the results that you have produced to help the organiser of the visit.

3. You must keep a portfolio of the work you want to be marked

Your portfolio is where you keep the evidence that you have produced. You should imagine that the portfolio is to be used by another person who is interested in how you produced your solution. It is to help them to do something similar.

- You must keep all the work you produce for the organiser and the Headteacher in hard copy in a portfolio (or put **all** of your work on a CD or DVD). It is important that you use the headings in the table in section 6 (Milestones, etc) for any work that you want to be marked by your teacher.
- If you are putting hard copy printouts in your portfolio, put the work in the order given in section 6, number each page and fasten it all together. Take it out of any plastic sleeves before you hand it in to your teacher for marking. Each page should have your name, centre number and candidate number clearly shown on it.
- If you are putting your work on a CD or DVD, put the work for each heading in a separate folder. Each folder must be called 'Milestones', 'Risk', etc. Inside each folder the work must have a file name which includes your candidate number and shows the order in which it must be seen or read. The CD or DVD should have your name, centre number and candidate number clearly shown on it.

4. Your portfolio

Remember that you are looking to provide ICT solutions for the needs of the organiser and a report for the Headteacher.

Plan what you are going to do to help the organiser and when it will need to be done, in order to meet a date provided by your teacher.

- Avoid taking any unnecessary risks when working with ICT and provide evidence of what you did to avoid risks. For example, to avoid the risk that your work will become corrupted, you must keep a backup copy of files so you always have a useable version.
- Manage and keep track of your progress, for example using a 'checklist', in a blog, a diary, or something similar.
- Ensure that the ICT solutions you provide will meet the needs of the organiser and do the job intended.

Evaluate the success of your ICT solutions and the way in which other people have (or could have) contributed.

5. Software tools and techniques are needed for:

- planning, recording, keeping track of and evaluating your work
- creating a method to collect information
- storing and managing the information collected
- producing lists the organiser requires
- modelling with data
- making the report
- selecting and combining the information in the report.

You are free to use whatever software tools and techniques are available to you.

6. What your teacher will be looking for and how to provide that evidence:

Your teacher will provide you with more information about the headings below.

Part 1: Planning and managing the problem	
Milestones - (maximum 9 marks)	1a A plan of the stages you think are needed to solve this problem, showing how you will break them down into manageable steps, which include time and resource management.
Risk - (maximum 6 marks)	1b The risks you think may occur while producing or using your solution. The thing, person or group of people that may be at risk.
Progress - (maximum 6 marks)	1c How you manage to keep track of your progress as you move towards finding a solution.
Managing storage - (maximum 6 marks)	1d How the information in all sections, including the ones below, is stored and managed.

Part 2: Independently using ICT	
Collect information - (maximum 9 marks)	2a In order to organise the visit to a local attraction, decide what information the organiser will need about students and parents/guardians. Consider different ways this information can be collected. Collect and review this information.
Select information - (maximum 9 marks)	Where possible, explain alternative ways of carrying out each of the tasks below and producing the results required. 2bi Decide what information about the visit to a local attraction the organiser will need to tell parents/guardians. Provide parents/guardians with this information in a suitable format. 2bii Select students who have not paid in full by 2 weeks before the visit. Produce a list of these students. Inform individual parents/guardians of these students that they need to make the final payment immediately and also what amount remains to be paid for the visit. 2biii Produce a list of students with access issues. 2biv Produce a list of students with a certain medical condition.
Format information - (maximum 6 marks)	2c Explain why the formats you used for the evidence in sections 2a, 2b, 2d and 2f are suitable.
Modelling with data - (maximum 6 marks)	2d Identify the different costs to the school for the visit. Using these costs, produce a model to calculate the cost to each student. Use the model to investigate how the organiser can keep the overall cost to each student within a certain amount.
Develop information - (maximum 12 marks)	2e Explain how you developed the solutions (for example, include earlier versions of the solution). Evidence will usually be taken from your work in parts 2a, 2b, 2d and 2f.
Produce a report - (maximum 12 marks)	2f Produce the report for the Headteacher. This will need to include all the results which are needed by the organiser (whether paper based or electronic).
Evaluate my own work - (maximum 10 marks)	2g Explain how your solutions met the milestones you set. Discuss what parts of your solution could have been improved and how they could have been improved.
Evaluate others' use of ICT - (maximum 9 marks)	2h Describe the impact that working with others could have had on the ICT solution.