7105 Computing – Coursework 2002 onwards
Example 2: Student's coursework and examiner's comments

Here is a further example of a student's coursework submission. In this case, the student has limited the marks s/he can be awarded because the project offers only limited scope for testing and evaluation and cannot be fully assessed under either of these criteria. Although it is not unreasonable for a candidate to submit the solution to one specific problem using only one software package, candidates and their advisors should take great care, when choosing a problem, to ensure that all five assessment criteria can be applied.

The student's written work is reproduced in italics. The examiner's comments are shown clearly throughout, in boxes, with a full analysis and explanation of marks at the end of each section.

Section A: Analysis

The Problem

One of my schoolteachers, Mr Smith, is organising an educational visit to London, England, for 20 pupils. He would like to use a computer to assist with the administration of the trip, but his computer skills are limited and he has asked me to help him.

The Tasks

Mr Smith will have to:

A) Communicate with parents and pupils, mainly by letter
B) Store information about those going on the trip
C) Keep a record of payments made for the trip, and issue receipts and statements
D) Prepare a presentation for a meeting of parents and pupils prior to the trip
E) Produce an information booklet for pupils to use on the trip

The Present Situation

Without my help, Mr Smith would be able to:

i)   word process letters that would convey the necessary information
ii)   keep a paper record of information about pupils going on the trip, and the payments made by their parents
iii)   talk to parents and pupils about the planned trip, using hand-written slides for illustration
iv)   produce an information booklet by word processing text and then gluing in artwork from magazines before photocopying.

The problem is that much of the information used in producing the items above would be duplicated. I think that if the information could be stored in computer files, the duplication could be reduced and much time and effort could be saved.

Inputs and Outcomes

The inputs to the computerised solution will be:

i)	*a keyed in letter giving initial details of the trip, and another offering a place on the trip*
ii)	*a list of pupils accepted for the trip*
iii)	*personal information about the pupils going on the trip*
iv)	*details of payments made by parents/pupils*
v)	*information for the parents' meeting, prior to the trip*
vi)	*information for the pupils' information booklet.*

The outcomes will be:

i)	*letters (some mail-merged?) to parents*
ii)	*a stored file of information about the pupils going on the trip*
iii)	*a record of payments made with outstanding balances*
iv)	*a computerised presentation for the parents' meeting*
v)	*a pupils' information booklet.*

Examiner's Comment:
This problem has a number of sub-problems within it. Its solution would require the use of several different packages. It is quite reasonable for a candidate to submit a solution to a problem that requires the use of only one software package. However it is important that when choosing a problem, candidates and their advisers ensure that all five assessment criteria can be addressed.

The tasks outlined in the analysis, taken together, represent more work than is required for my coursework, so I have decided to implement only the last one. This will give me an opportunity to develop my skills in an area that interests me.

Examiner's Comment:
The choice made by the candidate, regarding which of the identified tasks should be tackled, is not the most sensible. DTP solutions to problems do not usually allow candidates the opportunity to score marks at the highest level. It is, for example, very difficult for such a piece of work to be given good marks for testing. (See later.)

Success Criteria

If I am to be successful in helping Mr Smith with this problem I must ensure that I produce a booklet for pupils to use during the trip.

Examiner's Comments:
A problem in context is identified and some attempt is made to restate it in terms of the person attempting to solve the problem. A desired outcome is identified.
In terms of the assessment criteria this takes us to the 4-6 marks range, however, the criteria for success are rather weak.
With this in mind the analysis would score 5 of the 15 marks available.

Section B: Design

Task: To produce an Information Booklet for Pupils

Software Considerations

The requirement is to produce a booklet that will contain information to help pupils during the trip to London. The booklet will need to be both interesting and informative, so both layout and content will be important. I envisage a combination of text and graphics, most of the latter being either scanned into the work or taken from clipart libraries.

The types of software that immediately suggest themselves are Word Processing and Desktop Publishing packages. Any modern word processing software – Word or WordPro for example – would allow the combination of text and graphics and flexibility required for this kind of publication. Equally DTP packages such as Publisher and PagePlus were originally developed for just this kind of work. There is now very little difference between the two types of application and each could easily manage the task.

I believe the best kind of software to use would be a DTP package, as it would allow for flexibility of layout and easy amendment. It would also be able to cope very easily with the importing of graphics from various areas. I have decided that, because I have used the package before and am therefore familiar with it, I am going to use Microsoft Publisher. The software is available to me, both at home and at school, and I have always found it easy to use. I also believe that it has all the functions needed to allow me to produce an attractive booklet.

Hardware Considerations

The version of Publisher that I will be using was written for Windows 95, so in relation to more modern software it makes relatively small demands on the hardware. I will be using a Pentium 3 machine, running Windows '98, and the amount of RAM available is more than adequate. Printing will be done using a Hewlett-Packard DeskJet 950C – a multi-purpose machine that should give good colour output.

Testing Plans

In order to test my solution of the problem I will do two things. I will compare each of the printed pages with the original design plan to check that I have implemented the plan correctly. I will then show the completed brochure to Mr Smith to find out his views and to see if he would like any changes.

Design Plans (How I will use the chosen software)

I have decided to produce an 8 page booklet, using two sheets of A3 paper.

The following shows the intended content of each page, which I think is self-explanatory.

COVER 1	ITINERARY 2	TOUR 3	MUSEUMS 4
THEATRE 5	GROUPS 6	RULES 7	CONTACTS 8

Examiner's comments:
a) Detailed plans follow here for pages 1 and 3. Plans for the other pages would be similar and candidates would be expected to provide a plan for each page, so that comparisons could be made with the outputs presented in the Implementation Section.
b) The plans that follow are produced by computer in order to make them clear for teachers and candidates. In reality, candidates may find it more helpful to do their planning with pencil and paper – this is perfectly acceptable and possibly preferable.

Using 'Publisher'

The main point about Publisher, and any DTP package, is the ability to say how a particular page is to be laid out. Publisher does this by what it calls "Frames". These are inserted on the page where required and then the relevant material inserted.

There are four different kinds of frame – WordArt, Picture, Text and Table. All are inserted into the page in the same way – click on the relevant icon, drag out a frame on the page that is in the right place and is the right size, and then insert the relevant data.

The icons related to the various frames, which appear at the left hand side of the screen in Publisher, are shown on the next page:

Text Frame Icon			Picture Frame Icon
Table Frame			WordArt Frame Icon

Page 1 – The Front Cover

This page, as a front cover, is simply meant to be colourful, informative and interesting.

This will be a WordArt frame giving the message "Excel College", in a decorative and curved frame

This picture frame will contain a picture that will mean "London" to everyone – probably St Paul's Cathedral or Big Ben – something that everybody will recognise.

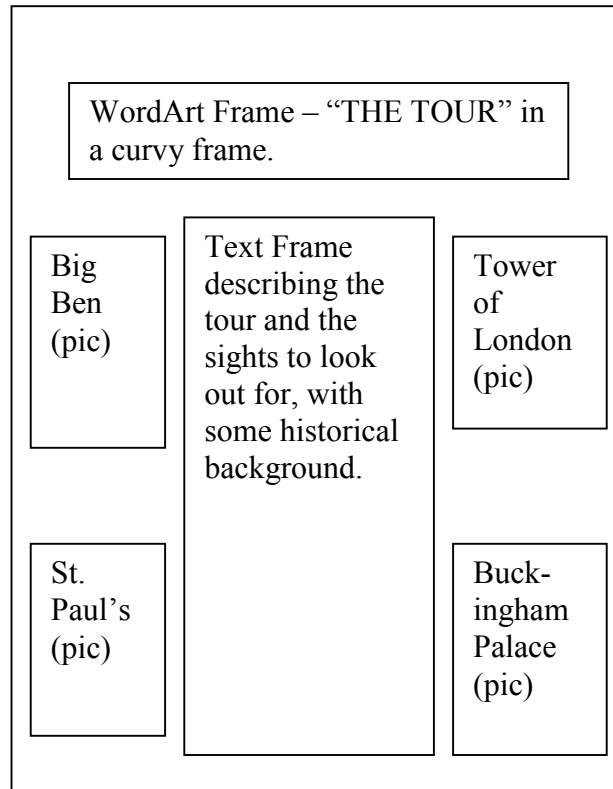Another WordArt frame, giving details of the destination and dates of the trip

This is a text frame, giving some details for participants about the main itinerary

Borders

Each of the frames used in Publisher can have a border attached to it. This can help to make the page or document look more attractive. I will try to use borders for most of the frames in order to make my booklet more attractive.

Page 3 – The Tour

This page of the booklet is to give the students an itinerary of a tour to be undertaken on an open-top bus, together with indications of what they should look out for during the tour. The page will therefore be largely information but will also contain some graphics to illustrate what the students will see during the tour.

WordArt Frame – "THE TOUR" in a curvy frame.		
Big Ben (pic)	Text Frame describing the tour and the sights to look out for, with some historical background.	Tower of London (pic)
St. Paul's (pic)		Buck-ingham Palace (pic)

Examiner's Comments

The design indicates reasonably clearly what is planned and gives some idea of how it will be achieved. The tools and techniques are identified, and the plans for individual pages are described. There is, however, considerable lack of detail, particularly in the choice of the software, its implications with regard to hardware and how it is to be used. The description of the creation of "frames" is very brief, and there is little information as to where the content, text and graphics are to be obtained. There is very little scope for testing, although testing has been considered.

As presented, this section would be awarded a mark of 13 out of 25. To gain more marks, greater attention would need to be given to both the justification of the choice of software, and the description of the methods used to produce the pages. This is not to say that candidates should produce a "mini-manual" for the application being used. It should simply be obvious from their description how what is to be produced will be achieved. The true test of a good design plan is to ask whether, if it were given to a third person, the implementation could be carried out. In this example the third person would struggle because of the lack of detail.

Section C: Implementation

My Output

The output contained in the next four pages demonstrates my solution to the problem of producing pages for the information booklet. It can be seen from these printouts that I was able to use Publisher according to my design plans, and produce the pages as required. The four pages show:

➢ *The layout for the front cover*

➢ *The printed version of the front cover*

➢ *The layout of the "Tour" page*

➢ *The printout of the "Tour" page.*

The only real change I had to make to my plans was with regard to the source of my pictures. I had access to two very large collections of Clipart and had assumed that I would be able to find something suitable within them. This was not the case, however, so I took the pictures from my version of Microsoft Encarta.

WordArt Frame "EXCEL COLLEGE"

Picture Frame
Typical London

WordArt Frame "London, July 2003"

Text Frame

Essential Information for
Participants

EXCEL COLLEGE

LONDON JULY 2003

Essential Information for Participants

Departure: We will leave from the college car park at 14:00 on Friday 20 July. Please report to your group leader by 13:30.

Luggage: You are reminded that luggage is limited to one piece of stowable luggage and one piece of hand baggage. This will also be the case on the return journey.

WordArt Frame "The Tour"

Picture Frame
Picture of Big Ben &
Houses of Parliament

Text Frame
to describe
picture

Text Frame
to describe
picture

Picture Frame
Picture of The Tower of
London

Text Frame explaining the route, the sights
and details of the visits to be made

Picture Frame
Picture of St. Paul's
Cathedral

Text Frame
to describe
picture

Text Frame
to describe
picture

Picture Frame
Picture of Buckingham
Palace

The Tour

Big Ben & The Houses of Parliament

Big Ben is the name of the bell in the clock tower of the Houses of Parliament. It weight 13.7 tonnes and dates from 1858.

Both Houses of Parliament - Lords and Commons - are in this one building

The Tower of London

This old and imposing building dates from the 11th century. It was for hundreds of year both a royal palace and the principal state prison. It was the scene of the execution of many famous prisoners - Sir Thomas More and Anne Boleyn among them. Today it is a museum and an armoury.

The Itinerary

Board the open top bus at Parliament Square. Look for Westminster Abbey, Big Ben and the Houses of Parliament. We now follow the river to the Tower of London (visit) On the way look out for Royal Festival Hall, The Tate Modern, London and Tower Bridges and the London Eye. We will then drive the short distance through "The City", past The Bank of England to St. Pauls (visit). Our return journey will take along Fleet Street (newspapers) and The Strand (theatres), around Trafalgar Square and down The Mall to Buckingham Palace where we disembark for a final photo opportunity.

St. Paul's Cathedral

The largest Protestant church in England, St. Paul's was built by Sir Christopher Wren between 1675 and 1710. It replaced the previous Norman building which was burnt down during the Great Fire of 1666. Serving the City of London the cathedral is famous, among many things, for the "Whispering Gallery"

Buckingham Palace

The London residence of the reigning monarch, Buckingham Palace was built in 1703 for the Duke of Buckingham. It became a royal palace when George III bought it in 1762 and asked John Nash to remodel and enlarge it. Nash originally intended his Marble Arch (to be seen on the tour)

Examiner's Comments

In this section the candidate has clearly produced material that satisfies the problem specified – two pages of a booklet. There are, however, several deficiencies in what is presented.

There are some significant discrepancies between the design plans and the final printouts. For example the shape of the pictures on "The Tour" page is very different from the suggestions in the Design section. This will obviously happen quite often, but the differences need to be explained. There is no indication of how each page was developed – if there was, this would have enabled the candidate to explain why the changes needed to be made. In other words more output, showing why the original plans proved to be unsatisfactory, would lead to a higher mark.

Similarly the candidate indicates a change in the source of the pictures used. Did this change the design, or the method? Did the frames need to be resized?

These factors, together with absence of any annotation, means that the work in this section would fit the assessment criteria for the mark range 13 – 18, but, given the lack of detail referred to above, the mark awarded would be 15.

Section D: Testing

To test my solution I compared my finished pages with my original plans. Although there are some small differences between designs and output these are fairly small. On the whole I think I can say that I have produced what I intended. To test my brochure further I showed the final version to Mr Smith. He said that it fulfilled his requirements completely, and, although some alterations would need to be made because of changes to the itinerary, he assured me that the brochure would be of great use on the trip.

Examiner's Comments

The nature of the task makes it difficult for the candidate to achieve high marks in this section. While testing of a sort has been considered and carried out, it would have been much easier to draw up and carry out sensible plans for testing work based on a database or spreadsheet task. In terms of what is presented "some testing is described and carried out" and a brief mention of "appropriate amendments" (3 – 4 marks). There is some mention of "an attempt to compare with expected results" (5 – 6 marks) but the description of the discrepancies and modifications is much too brief to warrant the marks. Hence the likely mark for this section would be 3.

Section E: Evaluation

My evaluation of the solution of the problem

I have enjoyed doing this coursework and feel that I have succeeded in producing a good solution to the problem I chose to tackle.

I have produced material for an Information Booklet that is both informative and interesting. This satisfies the success criteria I set initially.

In producing the booklet I found Publisher to be exactly the sort of software I needed. It was very easy to use – it obviously helped that I had used it a little beforehand – and it was also very easy to obtain help when I needed it. The creation of frames and insertion of text and graphics was very straightforward.

I encountered very few problems with this task. The main one was to do with the size of the pictures for the "Tour" page – the original frames I had inserted made the pictures appear distorted, so I had to change the frames, basically from portrait to landscape.

If I had the opportunity to improve my work the first thing I would do would be to look for a larger source of appropriate pictures. I finished up taking mine from Encarta but I'm sure that if I had taken the time to "surf the Net" I would have found a wider selection. What I found was quite suitable but a wider selection would have been better.

Examiner's Comments

This is a brief but very pertinent evaluation. There is no suggestion of any weakness in the finished work, but all other aspects are at least considered. The discussion of the software used could have been expanded to give more detail about what were the real benefits as far as solving the particular problem was concerned. In discussing the change of the shape of the frames for the pictures the candidate could have remedied some of the earlier omissions and explained how the changes were made. The mark awarded for this section would be 13 out of the available 20. To gain more marks the candidate would need to make more reference to the changes that were needed, to pay more attention to the weaknesses of the solution and to discuss the advantages or otherwise of the software in more detail.

Total Mark: 49/100