APPLIED ICT

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Paper 9713/01

Written A

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General comments

Many candidates were under prepared for this examination and did not perform well at this level. A number of candidates seemed to have rote learned answers from the specimen paper or used phrases found in the syllabus document. This leads to inaccurate or inadequate answers when candidates are required to show their depth of knowledge in question that require topics to be explained rather than just listing or describing them. A number of candidates were also guilty of paraphrasing the scenario or even the question.

Candidates found great difficulty with questions relating to working patterns, and confidentiality and security of personal data. Candidates also did not seem to have studied payroll systems in any great detail.

Comments on specific questions

Question 1

(a) Many candidates did well on this question and described at least two methods. Unfortunately a small number of candidates just listed three methods without a description and did not gain any marks.

(b) Most candidates were unable to suggest the method of storage as they failed to conclude that only serial access was required in the current system.

(c) The scenario required the candidate to deduce that a system requiring both direct access and serial access was required. Most candidates failed to make the correct deduction and were consequently unable to describe the indexed sequential method of data storage.

(d) Many candidates answered this correctly.

(e) Candidates often failed to give both sides of the argument instead they relied on vague descriptions of hacking for the main thrust of their answer.

Question 2

(a) Many candidates seemed to have learnt off by heart a supermarket scenario and did not transfer their knowledge to a banking scenario with many referring to checkout operators rather than bank clerks. Many concentrated on the unemployment aspect and therefore did not gain more than one mark.

(b) The majority of candidates concentrated on aspects of the data protection act without managing to explain which aspects would be relevant to the banking scenario. Very few candidates saw that the second half of the question was a 'discuss' question and failed to give advantages and/or disadvantages of different forms of security.

Question 3

(a) Again, candidates failed to transfer their understanding to the question asked. Many gained marks for specifying items but very few explained the factors within the context of the scenario or gave specific examples of how the factors influenced the choice of item. Many just repeated answers found in the specimen paper or syllabus without explaining them.

(b) Many **c**andidates failed to identify the importance of a payroll/works number for
Some did not differentiate between data found on a master file and that on the trans
Many gave simple answers relating to contact details.

(c) Many candidates demonstrated that they had not studied this topic in sufficient detail.
seemed to think that the only output from such a system would be the payslip.

(d) Again, candidates described the methods but did not compare and contrast by giving advantages
and disadvantages of each method.

(e) Candidates produced quite vague answers. The question asked candidates to describe how
evaluation would take place but many candidates concentrated on what would be evaluated.

Question 4

(a) This was a very poorly answered question and few candidates answered in sufficient detail. The
question required the candidate to describe the features of hardware and software not just to list
the hardware and software required.

(b) A number of candidates mentioned keyboards and mouse when the question stated that Vikram
had already bought a PC; such items are standard with any PC. The question required candidates
to give the uses of additional items; many candidates mentioned items of hardware and software
without saying how they would be used to help create the web page.

(c) This was answered quite well but some responses lacked sufficient detail within the context of the
question.

(d) Most candidates did not appear to have studied this topic in any detail. Many concentrated on one
or two features of a personal organiser.

Question 5

(a) This was answered quite well and most candidates gained marks.

(b) Despite (a) being answered so well, many candidates failed to provide enough detail when
attempting to describe the advantages of the devices. Many started to discuss software when the
question clearly referred to devices. A number of candidates seemed to think that just by repeating
their answer to (a) they were giving advantages.

APPLIED ICT

The majority of candidates completed all elements of the paper. There were vast differences in the range of results from Centre to Centre and from candidate to candidate within centres. This is a new syllabus this year and there were elements of all sections of the question paper that caused candidates some problems. This paper gave a good spread of marks. Candidate errors were spread evenly over the sections of the paper.

A very small number of candidates failed to print their name, Centre number and candidate number on every document submitted for assessment. Without clear printed evidence of the author of the work, Examiners were unable to award any marks for these pages. It is not acceptable for candidates to annotate their printouts by hand with their name as there is no real evidence that they are the originators of the work and had not collected the work of another candidate from the printer and annotated this with their name.

Several candidates omitted one or more of the pages from the required printouts. A small number of candidates submitted multiple printouts for some of the tasks and failed to cross out those printouts that were draft copies. If multiple printouts are submitted, Examiners will only mark the first occurrence of that page.

A small number of candidates failed to print the chart. There were some interesting interpretations of the questions, leading to a variety of different, yet correct methods to find solutions to the tasks set. One example of this would be the use of pivot tables or individual calculations to produce the printout for the number of buses that were late, categorised by route.

Please note that it is not necessary to staple together the work. Work should be submitted in the ARF. Some Examiners experienced difficulty marking some pages from some Centres, as candidates had stapled all their work together in such a way that it was very difficult to separate the sheets in order to view and mark all of the work.

Overall the paper performed very well.

Comments on specific questions

Spreadsheet

Question 1

This was performed well by almost all candidates.

Question 2

This was performed well by almost all candidates, although a small number of candidates inserted more or less than the required number of rows.

Question 3

This was performed well by almost all candidates. There were a number of typographical errors, including case errors and spelling errors.

Question 4

A significant number of candidates failed to use an IF statement to test if the bus was early or late. There were a variety of responses to this question, some candidates performed the subtraction and then tested the result in a new column to change all negative values into zero, others used the more traditional IF statement (as shown in the mark scheme). In the question it asked for a calculation 'to calculate the number of minutes', which implied that the corresponding answer should be numeric and the format for the number was clearly specified in the question. A number of candidates set the default value to "00:00" if the bus was on time or early, rather than using a numeric 0. The value "00:00" was treated by the spreadsheet as text and therefore could not be used in subsequent calculations.

Question 5

This was performed well by most of the candidates. Many candidates used the MINUTE function for this question, although a number used other formulae (e.g. =1440*cell reference) with equally good results.

Question 6

This task was completed well by a significant number of candidates using the MID function to extract the single character. There were a number of alternative solutions, including the creative use of nested LEFT and RIGHT functions to extract this data. A number of candidates left this result in text format and therefore failed to use the VALUE command (within this question or nested within **Question 7**) or use 1* to turn the text value into a numeric value.

Question 7

There were mixed responses to this question. Candidates were expected to use the external file and absolute and relative references to ensure that this formula was replicable. A significant number of candidates ignored this requirement and were penalised as a result of this. There were a variety of LOOKUP formulae used, VLOOKUP being the most popular. The vast majority of the candidates failed to set the ,FALSE parameter after the correct return column (or equivalent if using a different function). This was essential to ensure that candidates obtained an error message if the route number was not present. In the case of the data presented with this examination, route 8 data was intentionally omitted. This was omitted to test the higher level candidates' ability to trap errors like 'not an exact match' in the lookup and make sensible decisions about how to deal appropriately with the given data set. There is an expectation at AS level, that a higher level candidate's solution to a problem will include the ability trap errors and omissions in the data.

Question 8

There were mixed responses to this question. Candidates were expected to use the external file J8DEST.CSV and absolute and relative references to ensure that this formula was replicable. A significant number of candidates ignored this requirement and were penalised as a result. There were a variety of LOOKUP formulae used, VLOOKUP being the most popular. A number of candidates omitted the nested MID function (or alternative method of extracting the character), or appeared to place this element in a new column but failed to print out this column in the formulae view of the spreadsheet.

Question 9

This was performed well by almost all candidates.

Question 10

This was performed well by almost all candidates, using an average function. Some candidates calculated the average manually. The most common error was in defining the correct range for this function.

Question 11

This was performed well by many of the candidates, the majority using the MAX function to obtain the correct answer.

Question 12

A significant number of candidates failed to get full marks for this question, a number omitting this co[...] from the formulae printout. Those candidates who had errors in the calculation of the minutes formula[...] to adjust the comparison to match text values but the majority were unsuccessful. A number of candida[...] tried to reference the wrong range within this function.

Question 13

A number of candidates failed to perform the sorts in the correct order, the primary sort should have been on the Route column and the secondary sort on the Minutes column. Some presented only the second sort, not combining it with the primary sort. Some candidates omitted this completely.

Question 14

This was performed well by many candidates, although a number of candidates formatted some but not all of the three cells specified.

Question 15

This was performed well by almost all candidates.

Question 16

This was performed well by many of the candidates.

Question 17

Some candidates failed to format all of the visible cells in all three of the rows. A number of candidates set the cells to either bold or centre aligned but not both.

Question 18

A number of candidates could not filter the data using the given criteria. Some candidates attempted to delete the rows rather than searching/filtering for the correct data. The most frequent error was to search for less than rather than less than or equal to, or greater than rather than greater than or equal to, despite the question stating "inclusive".

Question 19

A surprising number of candidates failed to enter the text with 100% accuracy into the header of the page. A smaller number added their candidate details to the page rather than placing these in the footer.

Question 20

This was performed well by almost all candidates, a small number of candidates failed to show fully all the labels and data.

Question 21

Almost all of the candidates searched for the correct data.

Question 22

A significant number of candidates failed to change the text in the header with 100% accuracy. A number of candidates omitted this question and there were a number of errors in spelling or the case of the text.

Question 23

The majority of candidates printed the formulae with landscape orientation. A number of candidates failed to resize the columns so that all the data, formulae and labels were fully visible. Some candidate had hidden rows that appeared to contain formulae but could not be awarded marks as these could not be seen. The vast majority of candidates did not show row and column headings in this printout.

Questions 24 and 25

The easiest method of solving this part of the task was using a pivot table, a number of candidates d̶ and attained the correct answers. There were a number of other solutions demonstrated successfully candidates using a combination of searching and sorting techniques. There were a significant number o̶ candidates who produced a solution to these questions with the correct format but some incorrect values for the counts. Most candidates scored marks for text entry, although accuracy was lacking in some cases and merging the cells, although some candidates omitted the gridlines from the printout making it impossible for the examiner to see that this skill had been used.

Question 26

Most candidates transposed the cells correctly, even if the original count values were incorrect and therefore attained full marks for this part. A number had retyped the data in these cells. This was evident from data entry errors. These candidates attained no marks for this question.

Question 27

This was performed well by almost all candidates, although there were a number of case errors.

Question 28

This was performed well by almost all candidates.

Graph

Question 29

This was performed well by almost all candidates.

Question 30

The majority of candidates performed the correct calculations for the average number of minutes late for each destination.

Question 31

The search for the destinations with the average number of minutes late greater than 3.5 was incorrectly completed by a significant number of candidates. There were a number of candidates producing graphs containing all of the destination locations.

Question 32

This was generally well done by the vast majority of candidates. Selecting an appropriate chart type was a problem for some candidates; the most appropriate chart type is shown in the mark scheme. The data being represented does not represent trends across the categories or time and a comparative line graph is therefore not strictly correct. Candidates who produced comparative bar charts or comparative line graphs were given some credit for this question.

Question 33

This question was not well performed by the vast number of candidates. A significant number of candidates failed to include primary and secondary value axes, and therefore could not rescale only the axis containing the average number of minutes to start at 3. Labelling the chart also presented a number of problems for candidates. Some candidates omitted or misspelled the destination place names. A number of candidates omitted labelling this category axis with a simple label like 'Destination' or 'Location'. The value axes were not labelled correctly by the vast majority of candidates. Labels should not include shorthand notation like 'avg mins late', but should be clear, easy to read and give the user the information in a clear, succinct manner. Likewise the chart title should have given the user an overview of the data shown and be of appropriate size and appropriately positioned on the chart.

Word processed document

Question 34

This was performed well by almost all candidates.

Question 35

The page size and orientation was completed correctly by the vast majority of candidates, but few of the candidates set the margins as specified.

Question 36

The headers and footers were used correctly, but a significant number of candidates had accepted the default settings for alignment in the margins. These did not match the page margins and candidates did not attain the alignment marks for some of these elements. Candidates usually attained the left alignment mark and less frequently attained the marks for centre and right aligning the required elements. A small number of candidates did not use automated page numbering.

Question 37

This question contained a number of different elements. Most were completed correctly by the vast majority of the candidates. A small number of candidates did not set the column widths to give a 0.5 centimetre gap and/or failed to place a vertical line between the two columns. A very small number of candidates failed to apply two columns at all. The most common error in this question was the application of a serif font, many using the default font in their word processing software.

Question 38

Many candidates replaced the text correctly, although there were some data entry errors. A significant number of candidates failed to apply subscript the required characters. Some candidates attempted to complete this by reducing the font size of the numbers rather than subscripting them below the baseline.

Question 39

This question contained a number of different elements. Most were completed correctly by the vast majority of the candidates. The most common error in this question was the application of a sans-serif font, many using the default font in their word processing software. A small number of candidates failed to centre align and/or underline or embolden the text.

Question 40

A significant number of candidates from a range of centres failed to complete this question. Only a few candidates cropped the image and then resized it. A number of candidates cropped the top from the image ensuring that it could not be resized to fit the requirements within the margins without distorting the image from its original aspect ratio. A significant number of candidates had distorted images or images that did not fit to the column margins as specified in the question paper. A number of candidates did not place the image with any degree of precision. Text wrapping was generally completed successfully.

Question 41

Almost all of the candidates correctly completed this question. There were a number of candidates who lost the bulleted list and a number who allowed one of the lists to be split over two columns or pages.

Question 42

A number of candidates selected the wrong text, either too much (for example: including the full stop) or too little text. Some candidates replaced this text with the e-mail address to be used for the mailto in the hyperlink. A number of candidates did not show the hyperlink, but did show an e-mail editor with the correct address and subject line. This was awarded no marks as the candidate had to evidence the use of a hyperlink to open the e-mail editor. A number of candidates did this successfully by taking a screen capture (screen shot) whilst hovering the mouse over the hyperlink, whilst others showed screen capture of the 'Insert Hyperlink' or 'Edit Hyperlink' windows.

Question 43

This was generally well done by the vast majority of candidates.

APPLIED ICT

| Paper 9713/03 |
| Written B |

General comments

This is the first session for this paper and it was good to have so many Centres entering. This A2 paper follows on from the AS paper 1 in the depth of subject knowledge and understanding required to meet a marking point. There is a progression from IGCSE through AS to A2 with more and more detail required from candidates. It was disappointing to find candidates were not well prepared for this examination and displayed weak knowledge and understanding of the questions asked. There were too many cases of just listing items/features where candidates failed to expand on each point. This level of assessment requires a **what** and **why/how** an item is a sensible answer to a question for each marking point. This report goes into some detail to explain the mark scheme so that teachers may better prepare their candidates for this level of examination. It is disappointing to say that the quality of some candidates' answers was poor.

The following example of how the Internet was unexpected and has grown from **Question 7** shows the required level of response, rather than a list of terms as given in many answers with not description:-

> "Perhaps the reason why the Internet was never predicted was because of the sheer unbelievability that a person with his mobile phone in Ukraine, can immediately know the subtle fluctuations of his shares in the New York exchange with just a click of a mouse or button."

The language used by candidates was good and caused no concern to marking the scripts. Some candidates left sections blank which is not good examination technique.

Comments on specific questions

Question 1

This question used an ICU as the scenario; candidate's answers should have referred to this rather than be generic responses. Some candidates failed to read the scenario and realise that the ICU was a unit where patients are monitored by computer systems that interrogate various sensors that are monitoring the patient(s). It is not a computer system. If the sensor readings lies outside of an acceptable **range** (not a value) then the computer system will trigger an alarm. It is not the sensor which triggers the alarm. Many candidates did not answer this question to the required standard for an A2 question paper.

(a)   This section concerned the processing by the computer system using the sensors as continuous inputs.

Any **four** points from:
- **i.** It is a continuous process
- **ii.** Sensors collect patient information/vital signs
- **iii.** Analogue signal from sensors needs to be converted by ADC to digital signal
- **iv.** Computer files contain acceptable data ranges
- **v.** If data is outside acceptable range…
- **vi.** …Computer/microprocessor signals alarm e.g. trace goes red
- **vii.** If not then continue to monitor

- The first marking point required an emphasise that it is a continuous process.
- The second required not just the word 'sensor' but what it monitors.
- The third marking point concerned the need for an ADC, a very easy mark.
- The fourth was missed by a lot of candidates who had learned just a pre-set value and not the real world condition of a range for the test.
- The next point was often missed because candidates failed to discuss a range of values.

- Candidates often understood that an alarm is signalled, however some candidate ~~~~~~~~ the sensor triggers the alarm. This is not the case; the program tests the input valu~~ outside the acceptable range then an output signal is generated which in this case tr~~~~ alarm.
- This continuation of monitoring if the alarm was not set was often missed.

(b)   Why do hospitals use computer systems in ICUs? This should have been an easy question to answer for a candidate at A2. The mark scheme used the following points:-

Any **three** points from:
   i.   Gives 24/7 cover - qualified e.g. leaving nurses free to deal with other matters/ lower costs using microprocessor rather than nurses
   ii.   Humans can misinterpret signs/microprocessor can detect small changes
   iii. Can be programmed to monitor specific areas
   iv.   Rapid response to any problems
   v.   Can monitor several parameters at once
   vi.   Need for fewer highly trained staff
   vii. Can be linked into auto administration of drugs
   viii. More accurate measurements than a human
   ix.   More reliable results than a human

- The first point was often missed by candidates because they only gave the '**what**' of 24/7. This showed little subject knowledge and understanding unless qualified with a '**why**' such as doctors/nurses can tackle other tasks; or to provide enough trained staff to monitor each patient 24/7 would cost too much.
- The second point required a statement that a computer system can detect small changes **or** is less prone to mistakes readings.
- The third point required a statement that the computer system can be **programmed** to do specific monitoring such as heart rate.
- The fourth point required a statement that a computer can provide a rapid response and quite a few candidates realised that this is a feature of a computer system.
- The fifth point required a statement that a computer system can monitor more than one variable at the same time (not the qualification here for the mark; nurses can monitor more than one variable but not at the same time).
- The sixth point required a description of how a computer system can be run with fewer **qualified** staff.
- The seventh point is linked to the scenario and was not seen in the candidate responses.
- The eighth point required the candidate to state that automatic monitoring is 'more accurate' **than** a nurse/doctor.
- The final point concerned the reliability element of a computer monitoring system.

(c)   This section was concerned with a doctor using an expert system, not creating such a system.

Many candidates failed to demonstrate the necessary subject knowledge and understanding about this important Applied use of ICT. The mark scheme sets out the marking points:-

Any **four** points from:
   i.   Doctor enters answers to a series of computer questions
   ii.   Knowledge base/fact base compared/searched
   iii. Using inference engine…
   iv.   …and rules/rule base
   v.   Output produced giving % probability of diagnosis
   vi.   Doctor taken through a series of logical steps

- The first point is clear; typically the doctor would select from a list of options the patients symptoms.
- The following three points needed to be described carefully to earn the marks. Candidates often failed to describe processing in which the fact base is searched using the inference engine and rules base (just stating the names of these features did not earn the marks; a description was required).
- The fifth point was rarely understood.

- The last point required a description of the doctor deciding the diagnosis after c̶o̶ output from the expert system.

(d) **This section is concerned with advantages and disadvantages, both need to be cover̶ full marks.**

Any **three** points from:
          (Max of 2 marks for advantages and max of 2 marks for disadvantages)
        i. Reduces time taken to diagnose an illness
        ii. Need for fewer skilled staff qualified…
        iii. More accurate than a consultant
        iv. Reduced chance of errors helps the doctor make a diagnosis
        v. Portable systems can be used anywhere
        vi. Emotionally separates the doctor from the patient

        vii. Expensive to set up e.g. collect data/create program
        viii. Extensive training for doctor on how to use system needed
        ix. Needs to be kept up to date at all times
        x. Requires work station in all offices …
        xi. … therefore potential security risks

- The first point was provided by a number of candidates; 'quicker' did not earn a mark at this level.
- The second point is a common reason for using an expert system
- The third point was rarely given. Candidates often did not seem to appreciate that an expert system could be more accurate than **one** doctor.
- The fourth point required a statement that greater accuracy enables the doctor to make better diagnoses, this answer was rarely given by candidates.
- The fifth point was not given by any candidates; a computer system can be taken anywhere. When a modern car has a fault it is not always necessary to take the car to the expert system, the expert system can be taken to the car and plugged into the data link. The same concept applies in this scenario.
- The sixth point was also not given by any candidates. The use of an impersonal system can help reduce the emotion in producing a diagnosis in challenging circumstances, for example a young child with a terminal illness.
- The seventh point was attempted by a number of candidates. However, many candidate did not appreciate that the costs associated with the system are not primarily associated with the computer but with the software (based on the collection of the knowledge base) and its implementation.
- The eighth point required candidates to state that training of the **doctor** is required; many candidates missed this detail.
- The ninth point was given, however many candidates gave maintenance as the need for continued attention to the system rather than keeping it up to date.
- The tenth and eleventh points were not given by any candidates.

Question 2

This question was more difficult than question one. It was concerned with researching for new drugs and answers must refer to this.

(a) Research can take many forms and most candidates gave interviews, questionnaires, but failed to go into more detail; just providing a list like this is not worthy of an A2 answer.

Any **six** points from:
        i. Previous results of research work stored …
        ii. … can cross match results and save time and money
        iii. Results from tests on certain drugs stored
        iv. Avoids need to repeat expensive tests
        v Can predict likely outcome of doing certain tests on drugs
        vi. Computers can automatically control and monitor mixing of ingredients
        vii. Storage of analysis results/can check analysis results against specification
        viii. Do statistical analysis of results
        ix. A description of collaborative research

     x. Requirement for super computer due to amount of processing
     xi. Administering drug trials- feedback and monitoring
     xii. Modelling human system and testing drugs in this way

- The first point was given by very few candidates. Drug companies spend millions on research and will have a database of previous work to search through.
- The second point is a qualification of the first, cross matching can be carried out on the database.
- The third point was often given. A database would hold the results of the current research.
- The fourth point is a qualification of the previous point.
- The fifth point relates to the use of a computer application to make predictions.
- The sixth point concerns the use of monitoring/control systems in research; a few candidates gained this point.
- The seventh point relates to the record keeping of analysis
- The eighth point is an easy one and was achieved by a number of candidates.
- The ninth point is about collaboration, for example with other research departments within the company. Some candidates stated that the Internet could provide information; the scenario of a drug company would be very secretive.
- The tenth point was offered by some candidates but their answers were often not specific about the processing power required to model a drug.
- The eleventh point is the use of a computer monitoring/control system in drug trials.
- The final point that computers can be used to model the human body and its reaction to the drug was offered by a small number of candidates.

(b) This section was quite easy but few candidates realised what the question was asking; how would the company determine selling price.

Any **two** from:
     i. Use of spreadsheets to do…
     ii. Use of expert systems to do….
     iii. Take into account company costs (price based on % profit level)
     iv. Goal seeking

The marking points are quite clear. No candidates offered the expected response in the fourth point which is a feature of a spreadsheet that candidates should have met.

(c) Project management. Only a few candidates provided more than one valid answer.

Any **four** points from:
     ii. Gannt chart shows all stages/tasks to be done
     iii. Gannt chart shows the critical path(s)
     iv. Gannt chart shows key project milestones
     v. Gannt chart also shows:
          (a) number of days to do tasks
          (b) progress on tasks as % complete
          (c) progress vs expected time to do work
          (d) how tasks are all linked together
     vi. Allows emailing of tasks/project info to others automatically
     vii. Can use www/intranet to post or download project information
     viii. Allows use of PERT charts
     ix. Alert can be sent if target not met
     x. Allows use of resource graphs

Candidates needed to have the subject knowledge and understanding of Gannt charts in order to achieve any of the first five marking points; only a few knew about CPA and PERT charts. Very few candidates understood the automatic updating of key points as projects progressed through the stages.

Question 3

This is a straight forward question about CAL and many candidates scored well here.

(a) This section covered the advantages and was well answered.

Any **five** points from:
  i. Can work at own speed
  ii. Can work when you want
  iii. Can re-run sections
  iv. Can come back any time they want/pause training at any point
  v. Get immediate performance feedback
  vi. Immediate assessment made
  vii. Can include multimedia elements
  viii. No need for teacher/classroom ∴ cost saving
  ix. Easy to keep up to date/amend
  x. Can be tailored to exact requirements

(b) This section was not well answered, unlike part (a). Candidates did not give valid disadvantages. A large drug company is not likely to suffer power cuts; if the power is unreliable it will have its own standby generators as it cannot afford to lose the batch of drugs being manufactured. Candidates gave this answer quite frequently but it was not acceptable for this scenario.

Any **three** points from:
  i. Difficult to monitor any malpractice/work rates
  ii. Little student/student or student/teacher interaction
  iii. Very specific training/doesn't allow discussions of novel situations
  iv. Can be expensive to produce CAL training initially
  v. Student can be distracted by… e.g. browsing emails/ games

Candidates quite often gave the last marking point. Too many stated that CAL training could be expensive but failed to qualify why.

Question 4

Most candidates have seen an online shopping site and this question was set to allow detailed knowledge of such a system to be given in context.

(a) This section was about the advantages to both the customer and the store; a maximum of 3 marks was allowed for answers relating to each. Most candidates scored at least two marks.

Any **four** points from:
  (Max of 3 marks for customer adv and max of 3 marks for retailer adv)
  i. Much wider choice of CD available
  ii. If live in small town, have access to all music
  iii. No need to travel to store (saves money and time)
  iv. Less expensive since savings passed on to the customer
  v. Operates at any time of day and….
  vi. Use of search engine to find…
  vii. Some people do not like going shopping
  vii. Safer to use the Internet because.. e.g. no chance of mugging

  ix. No need to have a large store which will lower prices
  x. Larger buying public (e.g. overseas customers) which leads to
  xi. Increased sales
  xii. Can latch on to customer trends (promos etc.)
  xiii. Better discounts for larger orders
  xiv. Can sell cheaper due to lower overheads increasing profits
  xv. Larger customer base leads to bulk purchasing- lowers costs
  xvi. Enables "just in time", qualified … e.g. no build up in stock

Most candidates gave the first and third points.

(b) This question was not answered well by the majority of candidates. When this questi[...]
it was thought that the features of an online shopping site would be recognised and un[...]
candidates. Unfortunately this often did not prove to be the case.

i.	Shopping basket to show purchases
ii.	Link to secure website for purchase
iii.	A description of a 'wish list'
iv.	Login leading to account
v.	Additional languages option
vi.	Order history feature
vii.	Hyperlinks to music related sites e.g. NME
viii.	Feature to submit reviews of tracks
ix.	"When customers bought X, they also bought Y" facility
x.	Search facility for artist/title
xi.	Drop down boxes to choose music categories (etc.)
xii.	Help facility
xiii.	Currency conversion
xiv.	Data/sales confirmation by email
xv.	Saved customer details/customised pages/email registration
xvi.	Ability to track status of orders
xvii.	Ability to listen to tracks/see video clips of artists
xviii.	Recognise customer as soon as they log onto web site
xix.	Animation
xx.	Hyperlinks to related sites

These points should not need any further explanation in this report.

(c) This question related to automatic stock control. Many candidates failed to understand the level of detail required; for example, the record of the item sold must have been clearly mentioned when number in stock filed is reduced.

Any **five** points from:

i.	The bar code is read
ii.	Stock file holds details of item sold
iii.	Record found on stock file using key fields/bar code number
iv.	Number if items in stock reduced by 1 for each item sold
v.	If number in stock $\leq$ re-order level ……
vi.	…… automatic order sent out
vii.	When new stock arrives
viii.	Stock levels of that item increased accordingly
ix.	Automatic print out of stock levels

(d) Just in Time was a topic that was generally well answered, although the stem of the question was often repeated. Some candidates failed to explain that it was the customer who drove the ordering.

Any **three** points from:

i.	Customer orders trigger a need to restock
ii.	Computer sends order to supplier
iii.	Supplies are ordered
iv.	To arrive at the warehouse as required e.g. within 48 hours
v.	As required for selling/distribution
vi.	Could be sent direct to customer
vii.	Avoids need for large stores
viii.	Reduces cost by not having a lot of unsold items on shelves

Question 5

(a) Market research is not a difficult topic. However, candidates often failed to make reference to the scenario and gave generic answers.

Any **five** points from:

i.	Send out questionnaires/surveys to target groups
ii.	Research what competitors are doing
iii.	Description of personal interview
iv.	Description of telephone surveys
v.	Customer uses a website to complete questionnaire
vi.	Description of how customer using website is prompted to fill in questionnaire
vii.	Monitor sales of items from the shops
viii.	Store all the information on databases…
ix.	…and later analyse the information
x.	Produce report showing results of the surveys

Most candidates explained how consulting with customers of Jollywood could be effective in this research and were awarded marks. The marking points do not need any further explanation, apart from noting that a description of a survey is required. Candidates who simply offered a list such as; questionnaire, interviews, pop ups,… was not awarded marks. The answers required a description to meet the standards of an A2 examination paper.

(b) This section was an opportunity for candidates to use their everyday experience with MP3 players and explain why these have radically changed the music industry and market. Few candidates gave enough detail to be awarded full marks despite the number of marking points.

Any **four** points from:

i.	Ability to download music straight to a computer
ii.	Plug and play devices/ease of USB port
iii.	Music downloaded to MP3 players
iv.	Reduced size of hard discs leading to smaller players
v.	Increased capacity of storage media (flash memory or HD) holding more tracks
vi.	Improved compression techniques reducing size of files
vii.	Reduced size of batteries leading to smaller devices
viii.	Increased battery capacity leading to longer play time
ix.	Description of CODEC
x.	Improvements to user interaction with hardware via HMI
xi.	Broadband enables much more downloading of music files
xii.	Most modern music is already held in a digital format
xiii.	Solid state memory leads to more robust players
xiv.	Use of hard drives to store music rather than CDs
xv.	Home entertainment system that combines TV, etc.
xvi.	Generations of all digital music

Apart from the final point, these marking points do not need any further explanation in this report. The final point relates to the fact that today's generation of music is held in a digital rather than analogue form. Centres should take note of the level of description required to explain why, for example, flash drive players and hard disk machines have been so successful due to the technological developments.

Question 6

A harder question, candidates frequently gave the answers to (b) in section (a).

(a) A number of candidates gave CTI as an answer but did not provide the knowledge about what it can offer a call Centre.

Any **five** points from each item:

i.	Computer telephony integration (CTI) software
ii.	used to combine the data and voice input to the system
iii.	Third party call control software
iv.	allows any computer in network to control any phone in the system
v.	Inbound calling handling software
vi.	routing engine to ensure customers routed to correct "expert"
vii.	Script system
viii.	control on screen information for operators
ix.	Predictive dialling

x. auto dials next number on client list

Candidates generally did not understand that CTI software enables telephone messages to be sent the network to any computer. Very few understood the sixth mark point, that a caller keys in a num select from an automatic menu system for routing.

(b) This section was understood by candidates from some Centres, however others had little knowledge or understanding of this topic. Few candidates earned more than 2 marks.

Any **four** points from:
i. Computer software provides the script
ii. Prompts operator to ask appropriate questions
iii. Leads onto suitable advice provided
iv. Can give access to technical help
v. Can provide access to product stock file (to tell customer if item in stock)
vi. Can provide operator with (email) link to higher technical level/moving off script
vii. Stores customer file information/can display customer file information

Candidates gave the first 2 points but then failed to provide any other marking points.

(c) This question was generally well answered. However, some candidates failed to explain why a particular device was suitable for a particular disability.

Any **three** points – which include details of device and who benefits from it from:

i. Touch screen with menus operated by head wands by….
ii. Foot operated devices for pointing by …
iii. Speech synthesis for dumb operators
iv. Microphones for physically handicapped to communicate
v. Large tracker ball devices for physically handicapped to navigate
vi. Special keyboards/concept keyboards for physically handicapped to select options
vii. Software magnifier for visually impaired

Question 7

This is an open ended question which enabled candidates to show their understanding of the growth of the Internet. Candidates often failed to give valid explanations for the **growth** of the Internet.

A model answer would be 'Computers are much less expensive now than in the past, more people are buying them and then using them to access the Internet.' This would earn 1 mark. A list such as 'online shopping, online banking, online ticket booking' would not earn any marks as it gave no description. Possible answers, for one mark each bullet point, could be:

- The technical development of cheaper components such as memory, hard drives, has reduced the cost of a PC. Most people buying a PC will connect to the Internet and this increases web traffic.
- The improvement in web browsers has made surfing safer and a better experience for users with Flash etc. This has increased web traffic.
- Business started using the Internet for online shopping but failed to earn money. (It took Amazon several years to break even.) As more people are familiar with online shopping businesses can make the investment and customers shop online. This has increased significantly in the past few years such as ordering groceries for home delivery.
- The development of software enabling blogs and personal web space has led to a significant growth is the use of the web.
- P2P downloading of files, (whether legal or illegal) is a significant part of the traffic on the web and is due, in part, to the improvements made in download speeds through broadband.
- The installation of broadband to homes rather than dial up has enabled users to access more content and spend much more time online. Broadband does not charge for time spent online unlike dial-up.

Any **eight** points from:
i. Expansion of the provision of broadband
ii. Price of computers has fallen dramatically over the last few years

iii.   Improved search engines
iv.   Faster operating systems/software allow multimedia
v.   Large memory capacities (hard drives, DVD, …) …
vi.   …… allow large files to be downloaded and stored
vii.   Wireless connections to share Internet service
viii.   Other devices (e.g. mobiles, digital boxes, portable music players…)
ix.   Introduction of online services expanded its use e.g. remote photo storage
x.   Social networking such as chat/ personal web space
xi.   Greater capacity of Internet backbone
xii.   Increase in:-

Operating system development- faster data processing
More multimedia content posted on www
Web authoring software improved making its easier to create own web site
Online banking
Online shopping
Online auctions
Music downloads
Movie/tv programme downloads
Video conferencing using Internet
VoIP
Businesses using WANs]

APPLIED ICT

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Paper 9713/04

Practical Test B

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General comments

Most candidates were well prepared for this paper. However, many candidates lost marks by failing to supply valid or sufficiently detailed explanations as specified in the question paper. In particular, the explanation of the relationships between the tables was poorly completed, very few candidates described the essential nature of a 1-to-Many relationship. Similarly, many candidates lost marks by not providing sufficient functional detail for a user of the Menu system.

Comments on specific Task

Task 1-8 Database structure

In general this section was completed satisfactorily by candidates, but many failed to provide a suitable explanation of why the relationship was 1-to-Many. The explanation needed to include a reference to allowing individual customers to make many bookings.

Task 9-11 Data entry and mail merge of acknowledgement letters

The accuracy of the data entry was checked in the printouts of the merged acknowledgement of bookings documents. 100% accuracy of the data in the Company, Contact, Booking Number, Venue and Venue Date fields was required. In addition, it was required that all of the Address fields were displayed. A number of candidates failed to realise that the County and Post Code fields were part of the address.

Candidates were required to provide a printout showing both the mail merge codes and the document field codes; some candidates failed to realise the difference and showed only the mail merge codes. Some candidates recognised the difference but were unable to change the print settings, and provided screenshots showing both sets. It should be noted that the question paper specifically states that candidates should "print this document showing merge and field codes". Screenshot evidence should not be used where a printout has been specified.

To create the correct selection of recipients for the mail merge document, candidates were required to search or filter for customer bookings with the ACKSENT field set to false. Candidates were required to provide evidence of the selection method used. A screenshot of the final recipients list was not acceptable as evidence of the selection method because it could be created from a manually typed data source.

There was a conflict between the date settings in a number of candidates' database application configuration and the data provided in the source file. Candidates with this problem were not penalised.

The question paper included the instruction to save the merged file as ACKMERGE.RTF. This was checked by the file reference used in the menu document created in Task 13. A number of candidates did not use the file name as specified. Those who used a different file name were penalised at that point. At this level candidates should be aware that when simulating a business solution it is important to stick to the specification supplied. In general, candidates need to be careful to follow all instructions within the question paper to avoid losing marks unnecessarily.

Tasks 12 Mail merge of apology letters

The selection of the appropriate recipients for the apology letters required a search or filter with 3 Again, evidence of the selection method used was required and a screenshot of the final recipients lis not sufficient. A number of candidates failed to realise that the ACKSENT field now needed to be set to and failed to produce correct letters as a result. It was disappointing that a number of candidates who demonstrated their ability to mail merge documents successfully lost marks by being careless in their selection of records. The accurate selection of records is a critical skill when mail merging letters and candidates should take care not only to ensure that their selection matches that specified in the question paper, but also to verify their results before merging the document.

The document required the user to be prompted for a keyboard entry for "unavailable items" and "replacement items". Further, the question paper required the use of given prompt and default text. Some candidates who used Microsoft™ Word took advantage of the "fillin" and "ask" fields. Both are an acceptable solution. The question paper did not specify how the method used to create these prompts should be evidenced. This was usually provided by a printout showing the document codes, although screenshots of the field set-up dialog boxes were also acceptable. 100% accuracy was required for the prompt and default text as given in the question paper.

Most candidates completed this part of the question paper well; however, a number lost the marks for the prompt and default text used. This was unfortunate as these candidates had demonstrated their ability to recognise and use the necessary code but lost marks for the simple requirement to include the correct text; probably through a lack of care in their reading of the question paper.

As for Task 11 both the mail merge and the document codes were required to be shown. The same marking criteria were applied.

Task 13 The Menu system

This task was generally well done by candidates. However, some candidates were not awarded marks when the evidence of the hyperlinks showed only the path and source file or URL. Evidence of the object the link applied to was required for award of the mark.

Most candidates showed that they were capable of creating a functional menu system but many failed to supply explanations which were sufficiently clear for a non-technical user of the system. For example:

"….to print acknowledgement letters" required the further explanation that the letters were acknowledging the receipt of new customer bookings.
"….to print letters apologising…" needed additional information about what the apology was for; i.e. the unavailability of the items requested by the customer.
"….to open the data source" was not acceptable unless some description of what the database contained was given. This should have included the information that the database contained details of the customers and records of their bookings.

Task 14 Report of the newbookings table exported to a word processing application

This task required did not require the selection of data from the table and was generally completed successfully. Most of the candidates who lost marks had failed to ensure that all the labels and the data were completely displayed. At this level the production of sufficiently professional output is essential. The requirement to ensure that all data and labels were fully visible is explicitly stated on the question paper. It is unfortunate that some candidates failed to earn the marks for one of the easier skills in the paper.

Tasks 15 and 16 Reports of companies and venues with multiple bookings exporte~~d~~ ~~~~ ~~~~d processing application

These tasks required candidates to find duplicate entries for companies and venues. Candidates who ~~failed~~ to find the duplicate entries were awarded no marks apart from those for the report title and the export. ~~A~~ significant number of candidates failed to complete these tasks successfully. These tasks could b~~e~~ completed by a simple find duplicates query or the use of a straightforward SQL statement.

Evidence document.

A large number of candidates failed to produce a single evidence document and resorted to individual pages with screenshots as required. It should be noted that the question paper specifically states that candidates should use an evidence document, and candidates were even given the filename for this document. As long as their candidate details were on each of the submitted pages, credit was given to candidate where possible.