

# INFORMATION TECHNOLOGY

---

Paper 9626/02  
Practical

## General comments

Some candidates omitted one or more of the required files to be submitted for assessment, or submitted the containers for their working files but not the finished product (for example: video files were submitted in .wmp format). When these files are uploaded the contents cannot be viewed by the examiner.

## Comments on specific questions

### **Question 1**

This question was completed well by most candidates, although a few candidates did not time the clip length to between 8 and 9 seconds. All candidates set the image ratio to 16:9.

### **Question 2**

Almost all candidates successfully used the correct file as the background. About half of the candidates successfully placed the Turtleweek logo in the top right corner of the screen with a transparent background. Not all candidates displayed this screen for the required 5 seconds and a very small number did not place these title frames at the start of the video. Not all candidates set the background image to fill the whole screen.

### **Question 3**

Most candidates created the tables as specified but there were a significant number of errors in the field names where a significant number of candidates did not make the fieldnames short or consistent in style.

### **Question 4**

Very few candidates completed all of this question as required. The image supplied had a different aspect ratio to the required size and therefore some editing was required to make this image appropriate for the task. Almost all candidates displayed the captions for 7 seconds but not all the captions included all the required information which was in the introductory rubric.

### **Question 5**

Most candidates who attempted this question completed it as specified; a very small number did not remove the soundtrack.

### **Question 6**

The majority of candidates successfully took a screenshot of the last frame of the video and used this to create a background image for the credits. Almost all of the credits were of the correct length but few contained sufficient detail in the credits.

### Question 7

Most candidates submitted the completed video in .wmv format. Where candidates are required to export movies into a specified format, it is essential that candidates follow, exactly, the instruction in the question paper, otherwise it may mean that the Examiner cannot view the video and therefore be unable to award marks.

### Question 8

The majority of candidates successfully removed the end of the audio clip, although not all of them set the length of the clip to 51 seconds.

### Question 9

Many candidates set the fade in for this music clip but not all of these faded the music out. Some of the fade in and fade outs were too long, taking almost the entire length of the movie. When performing the fade in and fade out, a small number of candidates set the volume levels so low that the audio was barely audible.

### Question 10

Almost all the candidates completed this question as specified.

### Question 11

Most candidates completed this question with 100% accuracy.

### Question 12

Almost all the candidates who completed **Question 7** also saved this file with the correct filename and file type.

### Question 13

Fewer candidates (than those completing **Question 12**) completed this correctly. A small number of candidates had doubled up on file extensions, for example: saving the file as TWT\_3\_ZZ9999\_999.wmv.mp4

### Question 14

Many candidates completed this as specified although a significant number of them contained data entry errors or inaccuracies.

### Question 15

Almost all candidates added a new column in the correct place and used an appropriate function to look up the charity name, but several candidates saved their files in comma separated value format which does not save the footer details or any function or formulae used. It was not possible for the Examiner to identify whether these candidates had used functions in this cell.

### Question 16

A significant number of candidates introduced errors in attempting this question. Many successfully concatenated the 'looked up' strings but did not retain the formatting from the question paper. Some did retain the formatting but used inefficient methods to do so. Again where candidates saved as comma separated value files, no functions could be seen.

### Question 17

Almost all candidates successfully replicated both formulae for all rows of the spreadsheet.

### Question 18

Many candidates formatted the currency values as two decimal places with \$ symbols but not all of these had right aligned the data within the cells. Some candidates did add emphasis to the column headings and the title cell containing the text 'Auction data'.

### Question 19

This question differentiated well with many candidates producing excellent results using the charity names as column headings and the bidder's names as row headings. Some candidates produced other types of summary data that did not fully meet the requirements of the question, for example: listing all the bidders under each charity name, then placing the details for the next charity below this etc. Solutions like this did not total the amount due for each person.

### Question 20

Many of those candidates who had created correct pivot tables also selected the correct data, however in many cases the evidence of the correct data selected was present but not always screenshots detailing the method used to attain these results.

### Question 21

This question was poorly answered. Few candidates attempted to evaluate their own spreadsheet solution, many of them just listing or identifying the features of a spreadsheet.

### Question 22

This question required the candidate understanding that a relational database, not just a database would be required as an alternative method. A large number of candidates answered with 'Access' which is a product name supplied by a particular vendor rather than a generic application name. Few candidates followed this up with a description of the efficiency of the features of a relational database compared to a spreadsheet for this particular task.

### Question 23

Almost all candidates who attempted this question selected a pie chart, although adding an appropriate title and the selection of appropriate colour schemes for a black and white publication seemed to be more problematic. At this level, candidates should be able to change sector colours rather than just changing the colours selected for a colour printout and changing these to greyscale, not all showed this skill.

### Question 24

This task was poorly completed, a comparison of donations to one or two charities (preferably merged together) or all three charities was required. Few candidates correctly selected a pie chart and even fewer with only these two sectors. Some candidates did calculate the correct data for the chart production but selected a less appropriate chart type.

# INFORMATION TECHNOLOGY

---

**Paper 9626/04**  
**Advanced Practical**

## Key messages

For this examination, the main issues to note are as follows.

- Candidates need to be more familiar with the principles of normalisation and need relevant practice.
- Candidates need a better understanding of the concepts involved in relational databases.
- Candidates need more practice and experience in the creation of database forms and the use of sub forms.
- Candidates need a better understanding of the concepts involved in vector graphics.
- Candidates need more practice and experience of JavaScript programming.

## General comments

Many candidates did not seem to be adequately prepared for this examination. In particular, the normalisation and the JavaScript tasks proved to be beyond most candidates.

## Comments on specific tasks

### Task 1

- (a) In the first task, candidates were provided with a specification and were required to create an empty database. Candidates had little success in normalising the database. In particular, candidates did not use the information provided in the specification that the International Standard Book Number (ISBN) contains coded information identifying the Publisher and the Title of the book. This meant that information was duplicated.
- (b) This question was poorly done, with candidates not demonstrating a proper understanding of the issues.
- (c) (i) Candidates appeared to be inexperienced in the creation of forms. Most did not realise that a sub form could be used to display the list of books on loan to a borrower.
- (ii) In general, reports were not completed satisfactorily.
- (d) This part did not use data from the previous parts and candidates were required to use data from a source document as the recipient list. Very few candidates managed to select the correct recipients successfully and, in general, candidates did not produce letters that could be classed as fit for purpose.

## Task 2

- (a) All candidates reproduced the image similar to that shown in the question paper but most did not fulfil all the requirements that were listed. The most common omission was the specified 1pt black outline to the foliage. Candidates did not pay sufficient attention to the task instructions.
- (b) Most candidates listed at least one variable for a vector shape but it was rare for a candidate to show real understanding of the properties of a vector graphical shape.

## Task 3

- (a) Almost all candidates were successful in creating a version of the animated advertisement. However, several of them appeared to have misread the instruction 'It should consist of three clips each lasting 2 seconds...'. These candidates timed the three clips to a total of three seconds. This meant that the required fade-out was often indiscernible.
- (b) Most candidates appeared to understand the basics of a shape tween. However, very few managed to list three properties such as shape, size, colour or position that may be changed during a shape tween.

## Task 4

Most candidates did not attempt this task and merely saved the source file with the specified filename. There was no credit available for that element of the task. The candidates that did insert JavaScript code showed only basic understanding of programming and were clearly unfamiliar or inexperienced with JavaScript.

# INFORMATION TECHNOLOGY

---

Paper 9626/12  
Theory

## Key messages

Overall, candidates appeared to have been fairly well prepared for this assessment. Candidates showed a reasonable level of understanding, though there were areas of the syllabus of which many candidates appear to lack detailed knowledge.

On much of the paper some expansion and detail is required. It is not always sufficient to give brief answers.

Evaluation requires the candidate to discuss the importance, weigh up the advantages and disadvantages, judge the overall effectiveness and weigh up their opinions, of a number of options. Discuss questions also require advantages and disadvantages to be given. It is important that comparisons are made rather than just giving features.

Questions requiring simple and straightforward answers were done fairly well, while the answers to more demanding questions needed to contain more explanation or discussion.

## General comments

Quite often it appeared that candidates rushed into giving their answers whereas they would have been better advised to list their thoughts in rough before choosing, and elaborating on, items from their list that would be appropriate to their response to the question.

Candidates must read questions carefully before answering. A number of questions required descriptions involving different aspects of the topic whereas many candidates concentrated on just one and often repeated themselves within their description of this. **Question 5** (all parts) was a good example of this.

## Comments on specific questions

### **Question 1**

Candidates did well on this question with the majority of candidates gaining full marks. A minority of candidates did not realise that information overload can affect the quality of it. Occasionally candidates ticked more than the four answers requested and lost marks.

### **Question 2**

Candidates did very well on this question with many gaining full marks. Some candidates only gave three correct answers. The incorrect choices were fairly evenly split between the alternatives provided. Again, a small minority of candidates ticked more than the four answers requested and lost marks.

### **Question 3**

This question was well answered with most candidates gaining some credit. Where candidates lost marks it was usually as a result of not giving a plausible context and consequently providing unlikely descriptions of what the data could possibly represent.

#### Question 4

It appeared that candidates were quite familiar with the different types of interface and were able to give detailed descriptions of them. However, the question required candidates to evaluate them, that is to provide the advantages and disadvantages, which some candidates did not do. Many candidates gave brand names for their examples, which gained no marks.

#### Question 5

- (a) (i) Most candidates managed to gain some credit here, but answers often lacked detail, just concentrating on the basics of anti-virus software.
- (ii) This was slightly better answered than (a)(i) with many candidates gaining credit for reduction in file size and mentioning lossy and lossless compression.
- (iii) Candidates did not perform well on this question. Most seemed to have an idea of what fragmentation is but were unable to articulate their thoughts. Most could not describe with sufficient clarity what defragmentation is.
- (iv) Most candidates were able to describe the effects of formatting a disk but answers were often not detailed enough for full credit.
- (b) Most candidates were able to gain some credit but only a few candidates were able to provide more than a level 1 answer. Most candidates did not expand on their main points. When describing advantages and disadvantages it is important to make comparisons. Candidates identified points such as you can share data/work but this would be the case with stand-alone computers albeit not as easily. Very few candidates, for example, suggested that you could share work on a memory stick but that this would be more time consuming or difficult than doing it via a network. Some wrote that more cabling would be needed but gave no reason why this might be a disadvantage such as safety or cost. Some said hacking can take place without reference to why this is more likely in a network than in a non-networked computer. There were lots of inaccurate statements such as site licenses are cheap or hacking is easy. A number of candidates ignored the question completely and wrote about the advantages and disadvantages of using the internet.

Some compared peer-to-peer with client server and didn't compare to non-networked computers.

#### Question 6

This question was not well answered, with candidates seeming to lack knowledge of the topic.

#### Question 7

Most candidates seemed to be unfamiliar with this topic and seemed unable to answer the question. The vast majority of candidates appeared to see two tables of data and, not taking note of the question, thought that it was a question on relational databases.

- (a) Very few candidates gained credit on this question as they gave answers about linking the two files. Those that were successful described the sorting process. Very few mentioned validation.
- (b) Again, very few candidates were able to describe the process in any detail. Most gained marks for describing the calculation required.
- (c) Candidates did much better on this part of the question, with most able to describe an appropriate range check and length check.

#### Question 8

Only a minority of candidates appeared to understand the need to identify the range of data that needed to be sorted. Many thought that you could sort the two columns separately and did not realise this would lead to loss of data integrity. Candidates who did well on part (i) did equally well on part (ii).

### Question 9

The majority of candidates did not appear to understand what is meant by a static parameter query or a dynamic parameter query. Many seemed to think that when a database is updated the results of a static parameter query would not change but that of a dynamic parameter query would change.

### Question 10

This question was quite well answered considering the difficulty of the topic. Most understood why the data was unnormalised and were able to suggest the splitting of the name field but few saw the need for the creation of a subject table.

### Question 11

Most candidates did well on this question demonstrating a good understanding of the VLOOKUP function.

- (a) A large majority of candidates gained full marks for this question. Those that did not usually did not notice the need for absolute cell referencing of the lookup range.
- (b) Although this part was well answered, most candidates did not do as well as on part (a). Many did not see the need to explain or suggest the formula required in E8 and subsequent cells.

# INFORMATION TECHNOLOGY

---

Paper 9626/32  
Advanced Theory

## Key messages

Overall, candidates did not demonstrate the in-depth knowledge or understanding required of the topics in the syllabus.

Candidates need to answer the questions with explanations or descriptions rather than generic statements or lists. Questions that ask for analysis or evaluation should be answered with extended prose and not with simple statements.

## General comments

Some candidates used bulleted statements in their answers; this is to be discouraged as these usually do not allow candidates to communicate clearly their knowledge and understanding of the topic that is being examined, e.g. it is difficult to produce a comprehensive analysis or write a discussion by writing a bulleted list of points. Centres are referred to the syllabus which has the glossary of command words to be used in the question papers.

Candidates must read the questions carefully and apply their knowledge and understanding to the actual question, and not merely write down everything they know about a topic in response to a 'keyword', e.g. software maintenance in **Question 1** elicited many descriptions of software maintenance with only a few candidates realising that the question precluded all but one type of maintenance.

## Comments on specific questions

### **Question 1**

This question required candidates to give reasons to explain how the fully tested and error-free software would be tested to ensure that it was working properly in an unchanging situation. All the information was given in the question to direct candidates to the use of perfective maintenance so that the software performance might be enhanced or new capabilities added. Adaptive and corrective maintenance would not be needed given the constraints given in the question. A few candidates managed to explain this but most simply described all the maintenance types.

### **Question 2**

Many candidates did not appear to know much about the use of wearable, or body-borne, computers. Many candidates referred to 'watches' and links to smartphones, but only a few made any mention of the headsets or body-worn devices that have video camera/audio recording systems and communications systems built-in and were able to give any analytical comments on the use of such.

Questions that require analysis expect candidates to give in-depth benefits and in-depth drawbacks and to then draw a reasoned conclusion (or reasoned opinion) on their comments.

### Question 3

- (a) Candidates need to be able to calculate the different paths through a project and to be able to identify the critical path using the information given. Good answers calculated the time taken for the different paths and then showed the critical path. Poor answers described what a critical path is but gave no further information.
- (b) The 'float' is the amount of time that a task in a project can be delayed/overrun without causing subsequent delays. Some tasks can have a float, others cannot. Tasks on the critical path should not have a float. Good answers showed that tasks 2, 3, 4 and 5 should have a zero float because they are on the critical path which would take 16 days, while the path via tasks 1, 3 and 4 would take 12 days so task 1 could have a float of 4 days before it affects the overall time for the project.

### Question 4

As noted for **Question 2**, for questions that require evaluation, candidates are expected to give detailed information and to then draw a reasoned conclusion (or reasoned opinion) on their comments.

Most candidates described the characteristics of vector and bitmap graphics but did not link these with the suitability for use on the website. This gained little credit. Good answers explained the characteristics and then went on to detail why this made the type of graphic suitable or not suitable for a specific use on the website.

### Question 5

- (a) Few candidates understood or could describe how GPS signals are used. Many candidates erroneously described the navigation device as sending signals to the satellite requesting information. Answers about traffic issues and weather problems causing re-routing by the device did not answer the question so did not score marks. Good answers described the use of many satellites, how many satellite signals would be needed to calculate a location and included some descriptions of the technical aspects of the system.
- (b) This question was answered better than part (a) with most candidates describing the factors and how these affect the accuracy of positioning calculations. However, again, the technical knowledge of the candidates about GPS appeared to be poor and some very poor answers were seen.

### Question 6

This question was not well answered despite most candidates having some knowledge of how credit card processing works. Good answers focused on the use of the mobile chip and pin reader, as stated in the question, with references to its communication with the base station and the checking of the stored PIN with the subsequent communications with the relevant bank account. However, most answers lacked much detail and some referred to the subsequent transactions between the bank accounts which were not relevant to the question.

### Question 7

- (a) Few candidates could define EDI with many merely repeating the question.
- (b) This question was not well answered.

### Question 8

Candidates could describe packet switching but few could describe the benefits or drawbacks of packet switching for data transfer around networks. Most answers were superficial or lists that did not convey any information about the benefits or drawbacks.

### Question 9

- (a) Most candidates could explain that Method 2 uses an array but few could explain why this method is more suitable for storing large amounts of data.
- (b) Most candidates could state that the extra code referred to the use of comments but few could properly explain why this would have been done.
- (c) There were some good answers to this question. Most candidates gained some credit. Good answers should have included the variable declaration, a suitable name for the new variable and the number of the array item to extract.
- (d) There were also some good answers to this question. Good answers should have included the loop syntax, the incrementing of the loop, and the code/command word(s) to display the results. While candidates could create the loop, most did not address the requirement that the results should be displayed.

### Question 10

This question required candidates to select a method of research that would be appropriate to gather information from different groups of workers. Candidates were expected to be able to determine the most appropriate method for the type of worker given and to describe, with reasons, how it would be used.

Most candidates scored marks on each of the parts of this question but some gave poor answers with little detail or that merely repeated the question without any further expansion.

- (i) Most candidates could answer this question by appreciating, e.g., that Managers would be interviewed face-to-face as there are few of them and their use of time is flexible.
- (ii) Candidates needed to understand that observation of the assembly workers was appropriate to avoid disturbing/distracting them at/from their work.
- (iii) Most candidates could answer this question by describing the use of questionnaires with clerical staff.